



4 | *The Progressive City* 1890–1915

INTRODUCTION

On January 18, 1901, James McMillan of Michigan, chairman of the Senate Committee on the District of Columbia since 1892, opened the final stage of his campaign to devise a comprehensive plan for Washington’s future aesthetic development. His report summarized the recent accomplishments and future projects that would make Washington a “beautiful capital city.”

During the past decade Congress has provided the means for the artistic development of the District of Columbia in a manner befitting the capital city of the nation. The purchase of Rock Creek and the Zoological parks, the adoption of a permanent system of highways throughout the District, the improvement of the flats of the Potomac, and the creation of Potomac Park, and the extension of certain great thoroughfares of the city of Washington through the misfit subdivisions and thence to the District line all betoken the desire and intention of Congress to carry out the original idea of making Washington a beautiful capital city.

OPPOSITE PAGE: UNVEILING OF
GRANT MEMORIAL, APRIL 27, 1922

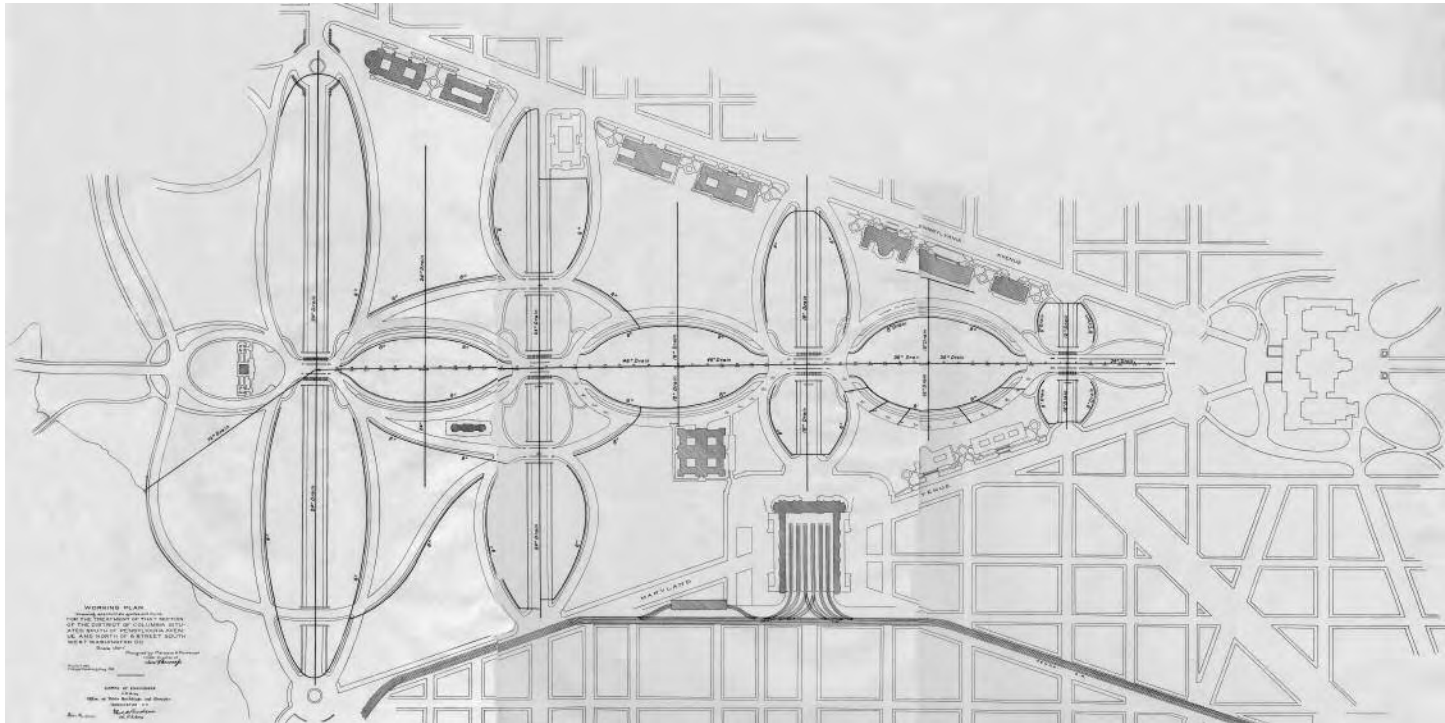
Office of History, Corps of Engineers

Moreover, legislation well begun, but not yet completed, shows that this purpose on the part of the National Legislature is continuous. The proposed speedy completion of the sewer system according to a carefully matured plan; the approaching completion of an increased water supply, and the installation of a filtration plant; the plans for elimination of all grade crossings on steam railroads within the city of Washington, and for the building of adequate railway terminals; the proposed reclamation of the Anacostia Flats; the approaching transfer to the District authorities of the control of the commercial water front of the city; these great projects that are even now in process of being worked out serve to show how comprehensive and varied is the movement now in progress for the development of Washington.¹

McMillan was the catalyst who initiated many of these great public works and then worked with various levels of the city and federal governments to bring them about because he saw them as the necessary groundwork for the future beautification of Washington. McMillan did not mention that each of these complex endeavors had been or was being carried out under the direction of some member of the Corps of Engineers. They were aided by the emergence of citizen involvement in several local organizations, including the Board of Trade and numerous neighborhood associations. Members of the Senate and House Committees in the District of Columbia sought the advice of the Engineer Commissioners and they, in turn, worked with the citizens' groups who lobbied them for city services.

THE SENATE PARK COMMISSION PLAN, 1902

On March 19, 1901, McMillan chaired a Senate subcommittee meeting that was the formal beginning of the Senate Park Commission, also known as the McMillan Commission, to coordinate the projects proposed or already underway with newly proposed buildings to serve a variety of public functions—a municipal building, a public library, a judiciary building (that included rooms for the Supreme Court), a government printing office, an auditor's office, a geological survey, and even a national university. McMillan wanted these buildings to be part of a coherent, comprehensive plan that would take into account the city's growth for at least half a century. The Senate Park Commission he established was composed of two nationally prominent architects, Daniel Burnham and Charles Follen McKim; landscape architect Frederick Law Olmsted, Jr., whose father



designed New York's Central Park; and America's most famous sculptor, Augustus Saint-Gaudens. McMillan's secretary, Charles Moore, acted as their guide through the Washington bureaucracy during their monthly meetings as they took seriously McMillan's injunction to be visionary in their outlook.

The commission's plan unveiled at the Corcoran Museum of Art on January 15, 1902, revealed that its members focused their talents on totally redesigning Washington's monumental core. Their Beaux-Arts scheme replaced the Mall's existing brick, brownstone, and terra-cotta-clad Victorian buildings with white marble neoclassical ones as an integral part of a new formal landscape placing the Washington Monument in the center of a vast, cruciform-shaped public garden incorporating the filled lands of East and West Potomac Parks. The plan not only called for dozens of new buildings, it required major alterations to the existing landscape, principally grading the Mall, which was considerably higher on its south side, building terraced overlooks around the Washington Monument, and re-positioning or creating major bodies of water in East and West Potomac Parks.

The Senate Park Commission plan was to have immense ramifications for the work of the Corps for the following quarter century. Its modern anti-Victorianism threatened to erase several post-Civil War buildings that Corps engineers had built on the Mall that would have to be rebuilt to modern designs; its vision transformed the Corps' reclaimed Potomac River flats not only into varied and extensive parklands but into spectacular sites for major new

At the behest of Col. Theodore Bingham, New York landscape architect Samuel Parsons, Jr., made a formal design for the Mall in 1900. Bingham himself proposed two designs for the Mall that would have left much of its picturesque gardens intact.
Office of Public Buildings and Grounds



On the eve of the Senate Park Commission plan, the Mall's high south side was cluttered with monumental and utilitarian buildings. The Agriculture Department is in the center foreground with the Smithsonian Institution and National Museum to its east, the construction of the latter two involving Corps' engineers.

Library of Congress, Prints and Photographs Division, LC-BH85-32

memorials; and its scope promised work that would increasingly involve the Corps in the revolutionary transformation of Washington into the capital of an emerging world power. The Senate Park Commission was dissolved after its design was made public, but its members were so committed to the plan's implementation that they all continued to participate in the design and construction of Washington's buildings and landscapes, either in advisory positions as members of future commissions or in securing some of the new projects for their own firms.²

THE PRESIDENT'S HOUSE

In 1889 First Lady Caroline Harrison asked a young friend, architect and engineer Frederick Dale Owen, to design additions to the White House. Since 1800 presidential families shared the mansion's second floor with presidential offices (open to high government officials twenty-four hours a day) while its ground floor had served as the "official residence" often opened to the general public. Owen proposed adding enclosed circular colonnaded rooms (inspired by the open arcades at Mount Vernon) to function as pivots to connect two new wings to the 1792 building—on the west the "official" wing and on the east the "public" wing. They, in

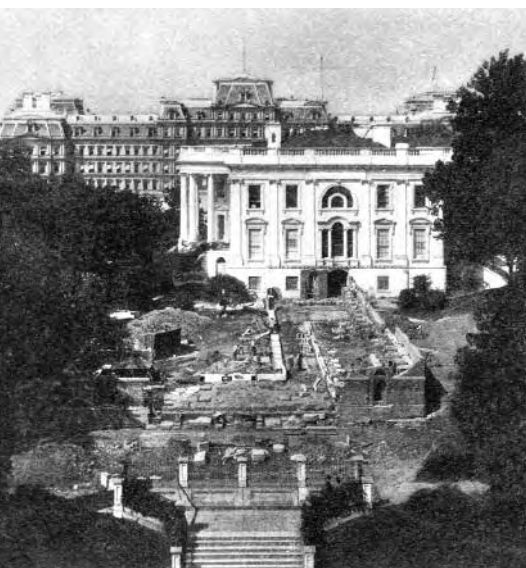
turn, were connected to a bank of low greenhouses on the south to form an enclosed rectangle; the new greenhouses were to replace a complex of glass houses that had gradually accumulated on the White House's west side.³ The drama of the White House's fate was news and reported broadly in the popular and professional presses of the day:

*Mrs. Harrison expressed her views to Col. John M. Wilson, U.S.A., engineer in charge of public buildings and grounds, whose daily routine is to visit the Executive Mansion and receiving the wishes of the presiding lady in reference to repairs or improvements, and suggested a proper recommendation on the subject of the present condition and requirements of the official residence of the President and family, in his annual report to the Secretary of the Interior for transmission to Congress.*⁴

Throughout the 1890s Corps officers repeatedly urged some solution to the problems of overcrowding at the White House. “Col. John M. Wilson, United States Army, who, by reappointment of President Cleveland, has now charge of the White House and adjacent grounds, has made a strong report on the necessity of some change in the arrangements for the domestic life of the Chief Executive.” Wilson particularly urged that a presidential office be found either in the Treasury Building or the State, War and Navy Building or that a separate office be erected on the White House grounds. One of his successors, Colonel Theodore Bingham, expressed the same concerns; the White House's structure was adequate if it was used solely as a private residence but could not survive the wear and tear of heavy office usage and huge public receptions. At the New Year's reception held January 1, 1897, 251 guests entered through the south entrance, while 7,849 entered from Pennsylvania Avenue. Colonel Bingham, Officer in Charge of Public Buildings and Grounds, told President McKinley “if more than two thousand persons were invited to a single White House reception, he—the President—must assume responsibility for any accident that might occur. Owing to the fact that the offices in the second story are mainly over the large East Room, they have no adequate partition support, and cannot be strengthened by the putting in of underpinning.” Indicative of the stress being placed on the building, a contemporary account noted seventeen men and their desks had recently been moved into one of the office rooms above the East Room.⁵

Perhaps Bingham considered his dual degrees from Yale and West Point sufficient education to undertake redesigning proposed additions to the White House. On December 12, 1900, Bingham displayed in the Blue Room a white plaster model of

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*White House east entrance and
terrace under construction,
September 1902
Office of History, Corps of Engineers,
Restoration of the White House Report*

his reduced interpretation of Owen's proposal for extending the president's house—enlarged versions of the two circular colonnaded rooms now serving as the mansion's sole additions. Bingham placed a new state dining room on the west side, its upper floor a series of hippodrome-shaped guest bedrooms. The new circular east wing was to contain two stories of executive offices. Bingham outlined his five guiding principles at the unveiling of his design:

1. *The present Executive Mansion to remain absolutely unchanged, and, if possible, not an outer door or window to be closed up.*
2. *The additions to be of such a character as not to dwarf nor obscure the present mansion; rather, if possible, to accentuate it.*
3. *Architectural harmony to be absolutely preserved.*
4. *The additions to be such as to relieve the pressure upon the present building, for, say, twenty-five or thirty years, and permit of still further extension in the future as may be found necessary, while at the same time presenting the appearance of a finished building.*
5. *Reasonable expenditure.*⁶

In 1900 Bingham also presented this plan at the annual meeting of the American Institute of Architects (AIA) being held in Washington, rousing the ire of the architectural profession. Architects found that the monumental scale of the two imposing domed rotundas detracted from the original building and considered the interior planning crude—Bingham simply ran straight corridors through the second floors, for example. Adverse opinions of



*New White House east
entrance and terrace, 1903
National Archives no. 77-WH-13*

Bingham's additions appeared widely in newspapers and journals of the day. "Mustn't Spoil the White House," read the headline of one Philadelphia newspaper on December 31, 1900, prompted by opposition expressed by the members of the T-Square Club of that city. "Devoid of Dignity, Lacking in Unity" was the opinion of New York's Society of Beaux Arts Architects as reported in the *New York Herald* on January 23, 1901. Robert Gibson, a fellow of the AIA, was careful to clarify the institute's position.

The institute had in mind only what it was proposed to do and carefully refrained from any criticism of the department having the matter in charge. Yet a too hasty press almost nullifies this courtesy by many misstatements.

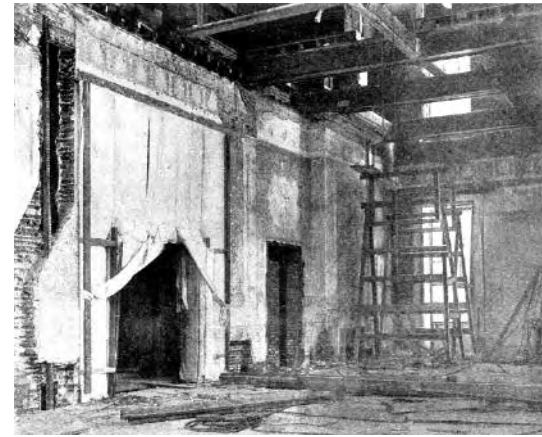
The institute is not engaged in an effort to take this public building or the task of enlarging it out of the custody of the United States engineers, nor does it charge that the scheme proposed is lacking in reverential intent toward the historic monument in question.

It simply seeks to show the custodians de facto the need of professional advice of a high order when the design of a house for the Chief Magistrate is in question, whether that house be or be not an addition to an existing one. The institute believes and declares that the thing to be done is important to the whole Nation and is worthy of the best skill procurable.⁷

Under the leadership of Washingtonian Glenn Brown, secretary of the AIA, the architects succeeded in convincing President Theodore Roosevelt in 1902 to give the job of renovating the White House to the New York architectural firm of McKim, Mead & White. Brown used the same rhetoric that launched the 1902 Senate Park Commission plan—patriotic sentiment about George Washington's role in founding the city and originally commissioning the president's house.⁸

McKim's principles for his restoration were:

*To put the house in the condition originally planned but never fully carried out.
To make the changes in such manner that the house will never again have to be altered; that is to say, the work should represent the period to which the house belongs architecturally, and therefore be independent of changing fashion.
To modernize the house in so far as the living rooms are concerned and provide all those conveniences which are now lacking.⁹*



(Top)
White House east room under construction, July 1902
*Office of History, Corps of Engineers,
Restoration of the White House Report*



(Bottom)
New White House east room, 1903
National Archives no. 77-WH-21

“The institute had in mind only what it was proposed to do and carefully refrained from any criticism of the department having the matter in charge.”

The *Architects and Builders Journal* in June 1902 reported, “it is President Roosevelt’s idea to avoid gorgeousness in the decorations, which, wherever introduced or renewed, will be made rather simple, so as to harmonize with the rest of the mansion.”¹⁰

Adherents of both aesthetic points of view believed they were accomplishing the goal of preserving the historic White House. In fact, Bingham’s additions were respectable but naïve within the context of the waning Victorian period; he looked to Thomas U. Walter’s 1850s additions to the Capitol, the exteriors of which both continued its regulating lines and details but multiplied its columns to achieve a richly three-dimensional screen effect. In his White House additions, Bingham did not employ a suitable hierarchy by diminishing the scale of the additions in relationship to the original, as well-trained Beaux Arts architects would have done. By 1900 Beaux Arts classicism—erudite, subdued, and elegant—had replaced the sumptuousness of Victorian classicism whose tenets Bingham was still following.

Of all his duties as Engineer Officer in Charge of Public Buildings and Grounds, Bingham was most comfortable with the ceremonial ones associated with his position as

*Theodore Alfred Bingham (1858–1934), who made a determined effort to remedy the White House’s problems, was born in Andover, Connecticut, and was intensely proud of his Revolutionary-era ancestry. Before entering the U.S. Military Academy in 1875 (and graduating four years later third in his class), Bingham attended Yale College for three years, later receiving a master’s degree in 1896. Bingham’s social background and skills led to his appointment as the military attaché in the U.S. legations at Berlin and Rome between 1890 and 1894. In 1897 Bingham was appointed Officer in Charge of Public Buildings and Grounds, a position that included serving as the president’s military aide in charge of official functions. In 1903, after Roosevelt relieved him of this position, Bingham was transferred to Buffalo at his own request. On July 10, 1904, he was promoted to brigadier general and the following day retired for disability having lost his left leg when a derrick fell as he observed it hoisting a launch. Eighteen months later Bingham was appointed New York’s Commissioner of Police in charge of a force of nine thousand policemen, a position he held until 1909 when he became the city’s chief engineer of highways and subsequently a consulting engineer with the city’s department of bridges.*¹¹



Colonel Theodore Alfred Bingham
Office of History,
Corps of Engineers



Line outside the White House for a New Year's reception (n.d.). The Officer in Charge of Public Buildings and Grounds was responsible for organizing the variety of events held at the White House.

Library of Congress, Prints and Photographs Division, LC-USZ62-104065



Easter Monday egg rolling at the White House, 1900. Among the many duties large and small of the Engineer Officer in Charge of Public Buildings and Grounds was organizing this annual festivity for children.

National Archives no. 77-WH-9

the president's military aide. He collected newspaper and magazine accounts relating to all the White House's social functions that he organized, the invitations to ceremonies for the erection of monuments that he arranged, and the seating plans for the three annual state dinners over which he presided as major domo. His efforts on behalf of the White House dominated Bingham's annual reports; the defeat of his plan to enlarge the White House was probably made more bitter because it was his duty to supervise construction of the McKim, Mead & White design. He and McKim had an unpleasant encounter that McKim reported to Secretary of War Elihu Root: "I have just had it 'out' with Col. Bingham in his office and explained to him very frankly the reasons which compelled me to oppose him. Thanks to you and the President, the air is clearer than it has been from the beginning—and the Col. is now full of expressions of readiness & willingness to assist us. He comes tomorrow to our office in New York with copies of [the] Contract." In 1907 Charles Moore wrote McKim, "it seems not only desirable but absolutely necessary to secure the hearty, intelligent cooperation of the office of Public Buildings and Grounds, if real progress is to be made with the plans for the improvement of the District of Columbia. Almost all of the difficulties that have arisen in the past have come from misunderstandings with this office."¹²

GOVERNMENT PRINTING OFFICE

The diversity of types of government buildings erected during this period required of Corps' engineers not only an in-depth knowledge of the latest advances in building technology, but a better understanding of the design, planning, and engineering abilities of large American architectural firms. Second Lieutenant John S. Sewell, who graduated second in West Point's 1891 class, was one of the new generations of capable Corps engineers assigned to constructing these buildings. The Government Printing Office (GPO) began looking for a site for an additional building near its 1860s structure on North Capitol Street because it needed to be close to a rail line and the Capitol. Sewell was ordered to duty in Washington in July 1893, "in connection with the erection of public buildings," and between 1894 and 1896 designed and carried out a series of additions and repairs to the original building that had been described in 1891 as "unsafe and in every respect an objectionable structure."¹³

In 1899 the government acquired the block on North Capitol Street on the north side of H Street, NW; \$2.4 million was appropriated for an additional building, and Sewell was assigned to design its interiors and erect the 408-foot by 175-foot structure. The original authorization specifically stated that the "selection and appointment of a competent architect

to prepare the plans and specifications for the elevations of the building shall be made by the said Chief of Engineers and the Public Printer jointly.” They chose Washington architect James G. Hill, who designed a seven-story red brick block on the Chicago formula for massive industrial buildings, its numerous, large, and regularly spaced windows providing abundant interior light for four thousand employees to work amidst machinery that often dwarfed them.¹⁴

From the outset, Sewell worked closely with the Public Printer, former congressman and Midwestern newspaperman Frank W. Palmer, who began lobbying for a new fireproof building soon after his appointment in 1889. Palmer wanted his mechanical staff, especially GPO’s chief engineer and electrician, to be actively involved in both the design and construction of the building. Sewell noted:

*I found that these gentlemen had made a careful study of the needs of the office, and had already arrived at perfectly definite conclusions in regard to many of the points brought up for discussion. Under these circumstances, it was deemed best for them, if possible, to design and supervise the installation of the mechanical, as they were more conversant with the needs of the office than any outside expert could possibly be.*¹⁵

Storage of paper in the basement required a dry environment, so Sewell ran conduits from each of the pits of the fifteen elevator shafts directly into the sewer line on North Capitol Street to lower the ground water by at least four feet. Because of the weight and vibration of the printing presses, the tremendous volume of paper printed daily and stored in the building, and the sandy construction site, Sewell devised concrete foundations “of truncated pyramids under interior columns and truncated wedges under the walls,” their sides sloping sixty degrees to support loads up to twenty tons per square foot. Sewell devised this kind of foundation because he wished “to avoid putting steel grillages beneath the basement floor” where they would be exposed to moisture that might eventually weaken them. A dramatic rise in the cost of steel at the outset of the project forced Sewell to refine his calculations for the steel frame to keep within the budget yet still erect exterior steel and brick walls uniformly two feet, seven inches thick.

Sewell noted that the most perplexing part of the design was the structural system for the floors because electricity was the only source of power to be used in the building and each machine had its own motor. Moreover, Palmer’s planned introduction of linotype and other hot metal printing technologies meant Sewell needed to plan for future holes in the floors and different configurations of machines. His solution was a sandwich of concrete



Colonel John S. Sewell. Sewell made his mark on Washington from 1899 to 1907 as head of two engineer offices for the construction of a new building for the Government Printing Office and the buildings for the Engineer School and the War College at Washington Barracks. In addition he supervised construction of the Department of Agriculture Building on the Mall.

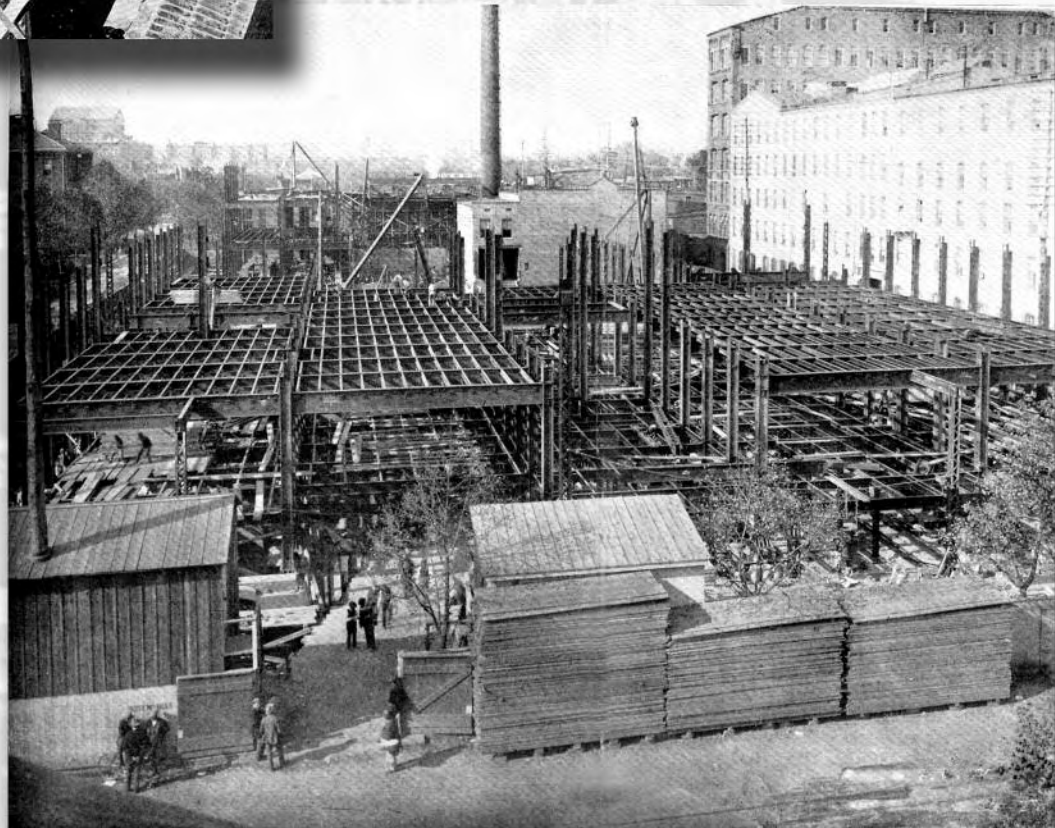
National Archives no. 111-SC-159604

CONSTRUCTION OF THE NEW GOVERNMENT PRINTING OFFICE

Captain John S. Sewell worked closely with GPO to design and construct a fireproof building suitable for the site and for the technical work of the Public Printer. The truncated pyramids used to spread the weight of the steel frame are visible in August 1900. Sewell used both contractors and laborers hired directly by his office in constructing the building, which had the “health and comfort of employees” as one of its objectives. The rapidly increasing price of steel and other construction materials was a problem during the project.



August 7, 1900



October 30, 1900



June 10, 1901

Post-1920

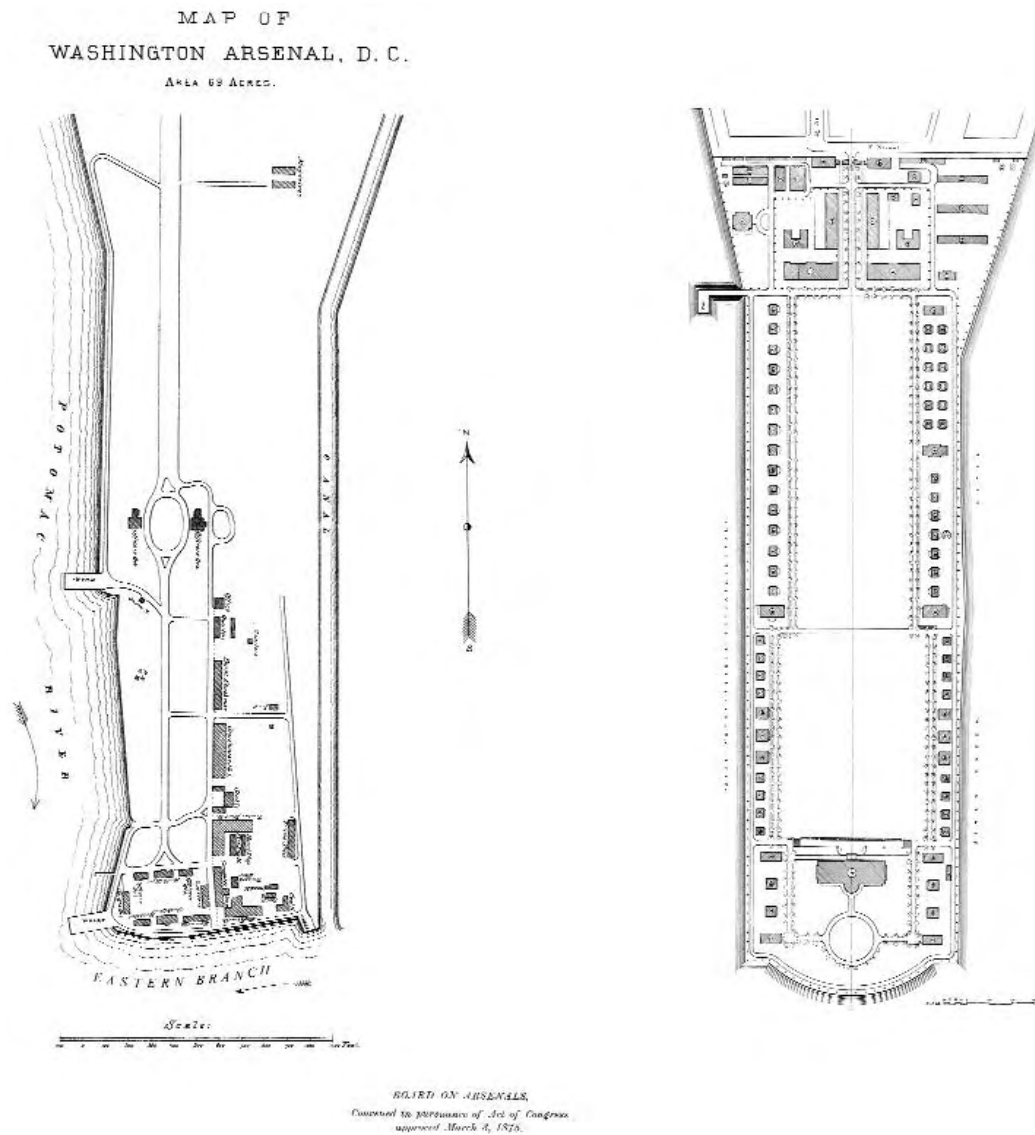


slab ceilings, a three-foot-tall crawl space to carry electrical cables and wires, and hollow clay tile floors, thus marrying structural solidity, access, and flexibility for each of the building's horizontal levels. Because GPO's engineers and electricians best understood how the complex electrical and mechanical systems needed to work, they directed the Corps' draftsmen in these aspects of the design. Sewell also allowed for more spacious vertical shafts than were common in large buildings of the era to run ventilating and heating pipes as well as electrical cables. When it was nearing completion, the *Washington Post* calculated that the GPO's eight acres of floor space could accommodate the entire populations of Washington and Baltimore. It was the largest printing office in the world and, when it was nearly complete, Sewell went on to design and build the Government Printing Office in Manila using the structural techniques he formulated for its prototype in Washington.¹⁶

ARMY WAR COLLEGE AND AGRICULTURE DEPARTMENT BUILDING

Sewell's expertise in designing advanced structural systems also was used at the Army War College and the Agriculture Department Building, both erected during the first decade of the twentieth century. Secretary of War Elihu Root created the new Army War College in 1901 for better integration of the Army's various branches. L'Enfant identified the military installation's location on Greenleaf's Point in 1791 and it has been in continuous use as one of Washington's principal military reservations since 1797. Since the 1840s the Washington Arsenal was at Greenleaf's Point, its buildings clustered at the south end of the peninsula and along its central roadway. Early in 1902 former Engineer Commissioner and Commandant of the Engineer School at Washington Barracks, Colonel William M. Black, carried a preliminary site plan for the War College to the Capitol where McKim, Root, and McMillan were lunching. McKim's legendary response was that Black had the "heel of the stocking where the toe ought to be," because the main buildings in the Army's plan were near the north end of the peninsula close to main transportation routes. Root immediately declared that McKim should design the complex in order to take advantage of the beautiful site and prevailing breezes. McKim and Sewell collaborated on the general plan that isolated the main War College building on the central axis at the south end of the point and ranged the officers' quarters along its western shore. On July 21, 1902, Sewell traveled to New York and spent the day working with McKim. "We really made progress, and Capt. Sewell left us with expressions of satisfaction which I feel sure it will please you to know," McKim reported to Root. "His readiness to meet us in every way was particularly gratifying and encouraging to us."¹⁷

*"We really made progress,
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Map of Washington Arsenal, 1875, and plan for the Army War College and Washington Barracks, 1908. In 1901 the U.S. Army Engineer School moved from Willets Point near New York City to Washington Barracks, former site of the Washington Arsenal. The newly-created Army War College was also located on the post, now called Fort McNair. Not all the buildings shown on the 1908 plan were built.

Board of Arsenals; Monographs of the Works of McKim, Mead, and White, 1915-20 (photo illustration)

Sewell's great challenge in building the Army War College was the site conditions at the end of the peninsula. Preliminary plans had to be revised when trenching showed that the point had been filled with a mosaic of different fill materials and foundations of former buildings when the point had served as the arsenal. To support the buildings along "General's Row," Sewell turned to a new device—reinforced concrete pilings. Learning of the untried process, he negotiated a contract with the local licensee. Through weeks of trial and error, Sewell worked out the best method of using the pilings, then built the homes upon them. In 1906 Sewell received the American Society of Civil Engineers' Norman Medal for his paper on innovative reinforced concrete design.¹⁸

Sewell was placed in charge of constructing the new Agriculture Department Building on May 2, 1903. He oversaw the construction of the Agriculture Department's two laboratory wings (its connecting administration building was not erected until

Army War College under construction, July 1906. Designed by the architectural firm of McKim, Mead, and White, the Office of Public Buildings and Grounds built the war college building at the tip of Greenleaf's Point on the site of an old arsenal.

Courtesy National War College



Officers quarters at Fort McNair, June 1905. Quarters 2 and 3 are nearing completion and the remaining thirteen quarters on the west side of the post are complete. The Chiefs of Engineers have lived in Quarters 9 since the 1980s.

Office of History, Corps of Engineers

1927–30). Construction was delayed until the site was chosen and Sewell was involved in those negotiations. For more than two years congressional committees, the Secretary of Agriculture, and even President Roosevelt debated the relative merits of north and south Mall sites for the building. Sewell often acted as a go-between among the interested parties. Once the site on the Mall's higher south side was decided in February 1905 at a conference held in the Philadelphia office of the building's architects Rankin, Kellogg & Crane, the problem was how to situate it on its steeply graded block. McKim represented the Senate Park Commission's view and Bernard Green and Sewell represented the Corps because the siting and heights of the buildings under their charge would be materially affected. The decision was that the Agriculture Department Building should be built in a depression excavated ten feet below grade in order to conform to the Mall's overall grade proposed by the Senate Park Commission in its 1902 plan. At the February meeting it was decided that Sewell should convince the Department of Agriculture to accept the change. Sewell and McKim were allies in establishing the parameters for the Mall's present and future buildings.¹⁹

Sewell saw the laboratory wings of the Agriculture Department completed and was promoted to major on June 9, 1907. Six months later he resigned from the Army (on January 31, 1908) to become vice president (president in 1919) of the Alabama Marble Company. Sewell's resignation in mid-career was unusual among the elite Corps of Engineers. Like many other former engineers, Sewell was called back to active service



during World War I when he was named a Colonel of Engineers and after which he received the Distinguished Service Medal, and was named an officer in the French Legion of Honor and received the Belgium Order of Leopold. Sewell's last major professional contribution was as director of exhibits at the Century of Progress Exposition, held in Chicago in 1931.²⁰

THE CORPS AND THE AMERICAN INSTITUTE OF ARCHITECTS

At the turn of the twentieth century, the Corps and members of the AIA (by no means the majority of Americans who worked as architects) increasingly collaborated on major projects in and near Washington. The AIA had established five percent of a project's total costs as the minimum fee its members should charge and was trying to enforce this rate for government projects. The government argued in turn that Corps engineers actually performed many of the services normally included in architects' fees. The Agriculture Department Building's architects, Lord & Hewlett, refused to sign the three and one-half percent contract proffered by the government and were replaced by Rankin, Kellogg & Crane of Philadelphia. While working together to ensure that the Mall's first two buildings would follow the Senate Park Commission's plan regarding building and grading lines,

Construction of the Department of Agriculture Laboratory B on the Mall, July 1905. After lengthy discussions, the department's laboratories were built on the higher south side of the Mall. In order to preserve the Senate Park Commission's plan for the siting and scale of buildings, the engineers built the building in a ten-foot depression that can be seen in this photograph.

National Archives no. 16-C-2-18

Sewell, Green (who was superintending the construction of the Natural History Museum), and McKim discussed in detail the issue of architects' fees.²¹

On April 18, 1904, McKim wrote Green, "our own agreement with the Government, in the work of the Army War College at Washington Barracks, has proved satisfactory both to the Government and to ourselves." He noted the three requirements of his firm's contract with the Army:

- (1) *'To be charged with all questions of plan, location, disposition and general arrangement of buildings and grounds.*
- (2) *To prepare the preliminary studies, working drawings, details and specifications necessary for the construction of the building in accordance with the requirements of the War Department, and under the direction of the Chief of Engineers.*
- (3) *We should further expect to furnish such supervision and periodical inspection of the work, in process of erection, as we should find necessary to ascertain whether it was being executed in conformity with the design and specifications, approved by the Chief of Engineers, and the Secretary of War.'*²²

McKim then compared "supervision" of a building's construction with its "superintendence," which he understood was to be done by the Corps. The superintendent was the purchasing agent in charge of engineering issues relating to drainage, heating, lighting, and plumbing, and inspected materials and workmanship, with some supervision allowed the architects.²³

Surprising to everyone at the time, the twentieth century began with a sudden lessening of rancor between the architectural profession and the Corps of Engineers. Roosevelt's involvement in the Senate Park Commission's design and early implementation efforts included his Secretary of War, Elihu Root, also a cosmopolitan New Yorker and a member of the Century Club. There the country's leading artists mixed freely with its political and business leaders.

Roosevelt and Root met McKim and other architects, who increasingly were seeking government work, at the Century Club. Roosevelt and Root themselves may have asked that the relative responsibilities of architects and Corps engineers working together on government projects be clarified, or McKim may have taken the initiative.

In 1902 the AIA invited Colonel John Biddle, the Engineer Commissioner, and Sewell to address its annual meeting. Biddle welcomed the architects to Washington and



National Museum (later the Smithsonian's Museum of Natural History) under construction, March 1909. The dome and columns are partially completed and the stone slabs for the stairs encased in their wood shipping crates seen in the foreground.

*Smithsonian Institution Archives,
Record Unit 79, Box 9, Folder 5,
image #2003-19551*

outlined the nature of his professional concerns in the age of skyscrapers, building codes, and private interests versus public convenience. Sewell's lengthy paper, on the contrary, addressed the issue that most concerned the AIA: "The Relation of the Architect and Engineer to the Design and Erection of Government Buildings." McKim, as the AIA's new president, introduced Sewell as "a master builder for the Government, a worthy successor of Casey and companion of Green, who aims to build for all time, as the Roman constructors impressed themselves on civilization." Sewell advocated a simple system applicable to all departments of government because "there is much complaint on the score of artistic merit, or structural excellence, or economical execution in many of the buildings erected under any of the existing [government] systems." His system was one that echoed the opinions of many in the architectural profession: "The engineer should be a Government official, with authority to disburse funds and make contracts; the architect should be in private practice."²⁴

In 1903 McKim drafted a long memorandum titled, "An Architect's Service and Remuneration," in which he quoted several reports on the construction of government buildings. Sewell's November 3, 1903, report for the Government Printing Office calculated the Corps' office expenses at six and six-tenths percent of the building's total cost. "This is exclusive of the cost of experts in heating, ventilation, plumbing, electrical installation, and his own salary," McKim noted. Bernard Green had argued with McKim that "compensation of architects must be very moderate under Government employment" because the government paid all of its skilled and professional employees less than what they could make in the private world. He felt that there was an "acknowledged honor and prestige obtained from government employment in professional fields" and that a law should fix architects' fees at four percent for government work independent of the quality of the architect. McKim and other AIA members disagreed, partly because they used their own staffs for work that was then duplicated by members of the Corps. Green's solution was a new "Office of Construction of Public Buildings, District of Columbia," which would have the authority to select architects as well as have total supervision of all aspects of the construction of new buildings.²⁵

"The engineer should be a Government official, with authority to disburse funds and make contracts; the architect should be in private practice."

GRANT MEMORIAL

The Grant Memorial Commission was established by Congress on February 23, 1901, and an unprecedented \$2.5 million was appropriated for Grant's Memorial in comparison to the \$2 million appropriated later for the Lincoln Memorial. General Grenville M. Dodge,



*Unveiling of Grant Memorial on
April 27, 1922, Grant's birthday,
with U.S. Military Academy
cadets in the foreground
Office of History, Corps of Engineers*

president of the Society of the Army of the Tennessee, chaired the commission, and its members were Rhode Island Senator George Peabody Wetmore and Secretary of War Elihu Root. From the outset, the commission planned “a statue or memorial,” but prior to deciding on a memorial design it proposed locations either immediately south of the State, War and Navy Building, or on the northern part of the Ellipse. The sudden proliferation of commissions charged with Washington’s development fostered conflicts. By June 3, 1901, three months after its initial meeting, the Senate Park Commission planned a huge triumphal arch dedicated to Grant to terminate the Mall’s west axis at the Potomac River’s edge. On June 7 Root convinced the Grant Memorial Commission to delay deciding on a site until all the design entries (anticipated to be sculptural in character) were received. The entries were not due for another ten months.²⁶

About the same time, Root asked the Senate Park Commission to act as consultants to the Grant Memorial Commission, the two commissions having conflicting ideas about the location and character of the memorial to Grant. Daniel Burnham, chair of the Senate Park Commission, lobbied Root via a letter in late August, arguing that the Potomac

Park site for the Grant Memorial was one of the plan's "five great points." McKim followed up with a meeting with Root six days later on August 28, and reported that the secretary was personally in favor of the Mall site for the Grant Memorial but would not oppose Dodge, unwilling to "over-ride a man so near the end of his career, whose public services entitled him to such consideration." Moving the Grant Memorial to the Mall would have nullified the Grant Memorial Commission's competition and undoubtedly caused concern in Congress, which had appropriated a quarter of a million dollars for it. In late November 1901 McKim, the Mall's principal designer, decided to move the Grant Memorial to the foot of Capitol Hill just a month before the Senate Park Commission's plan was to be unveiled on January 1, 1902. This decision led to repositioning the Lincoln Memorial (also originally conceived as a triumphal arch), first located south of the White House on the far side of the Tidal Basin.²⁷

On February 4, 1903, a design by the young team composed of sculptor Henry M. Shrady and architect Edward Pearce Casey was selected from among twenty-seven entrants in the Grant Memorial competition. In 1901 Root suggested that statues of General Philip Sheridan and General William T. Sherman be added as pendants to the figure of Grant. Shrady, however, chose to represent Sheridan and Sherman via multi-figure groups of artillery and cavalry, adding two relief panels depicting infantry on the pedestal base of the equestrian figure of Grant, and four recumbent lions, all modeled in clay, initially cast in plaster, and finally cast in bronze.²⁸

The competition was contested, the choice of the former Botanic Garden as the site was assailed, and Shrady's relatively frail constitution led to repeated delays in meeting deadlines, all challenges that a succession of Corps officers successfully met, beginning with Theodore Bingham and ending with Clarence O. Sherrill. Bingham secured the Corcoran Gallery's exhibition space to display the entries, made arrangements for a second, limited competition, and reported to Root that Shrady's sense of personal and professional decorum was superior to that of Charles Henry Niehaus, the second-place contender. Shrady began working in February 1903, although the site had not yet been finalized. His 1903 contract had two financially burdensome stipulations—the posting of a \$250,000 bond to ensure the project's completion, and incremental payments based on completion of plaster casts of each section. In 1910, with the help of Colonel Cosby, Shrady had the latter requirement



Designed by sculptor Henry M. Shrady, the central figure of the composition—the bronze equestrian statue of Grant—weighs 10,700 pounds and with its pedestal is forty feet high. The statue was hoisted atop its pedestal in 1919.

Library of Congress, Prints and Photographs Division, Lot 12654-5



Colonel William W. Harts (shown as Brig. Gen.). As Officer in Charge of Public Buildings and Grounds, Col. Harts played an important and delicate role in the design and construction of the Lincoln Memorial.
Office of History, Corps of Engineers

changed to the completion of the clay models. Casey's architectural setting was erected in 1908 and the four lions and eight candelabrum were installed shortly thereafter; the artillery group (the largest and most complex bronze cast to that date in the United States) was not put in place until 1911.²⁹

By 1914 the Grant Memorial Commission was questioning Shrady about repeated delays. Shrady wrote to the executive officer of that commission, Colonel William W. Harts: "I am afraid Gen. Dodge [chairman of the commission] does not quite appreciate the great task before me." Colonel Harts, acting in his role as secretary of the Commission of Fine Arts, wrote its sculptor member, Daniel Chester French, asking him to visit Shrady's studio and report on his progress. French's reply to Harts echoed Shrady's assertion. Harts then wrote Dodge that the monument could not be unveiled before the spring of 1916. But Dodge remained impatient and Harts was forced to continue pressuring Shrady. Early in 1916 the Cavalry Group was placed on its pedestal and Shrady's family said Washington "officials" stopped "hounding" him. When the figure of Grant was raised on its tall pedestal in 1919, the central group was nearly forty feet high. "Shrady's daughter recalled that her father's government patrons had instructed him to make the Grant larger than the *Victor Emanuel*,...but that he had decided to make it two inches shorter for two reasons; in deference to the Italian workmen he employed to assist him in his studio as he enlarged the model to full size, and because he wanted his work to be distinguished by its merits, rather than by its size." The massive Victor Emmanuel II Monument on the north side of Rome's Capitoline Hill, dedicated to the first king of the united Italy, had been constructed between 1885 and 1911.

When the two relief panels depicting the infantry had not been added to the base of the Grant statue by June 1921, Colonel Clarence O. Sherrill, new Officer in Charge of Public Buildings and Grounds, wrote Shrady that if they were not finished by October, another sculptor would be hired to complete them. Sherrill reminded Charles Moore of the Commission of Fine Arts, who intervened on the sculptor's behalf, that Shrady's contract was extended ten times. Shrady hired a young sculptor, Edmund Amateis, to work on the relief panels, but he was unable to complete them. The monument was unveiled without them and the panels were not added until 1924. When the unfinished sculpture was unveiled on Grant's birthday, April 27, 1922, Shrady was already in the hospital with a fatal illness. The physical and psychological stress of creating one of America's greatest sculptural works, and the difficulties he encountered dealing with the Washington bureaucracy, are cited as the cause of his death at the age of forty-nine.³⁰

LINCOLN MEMORIAL

In 1911 President William Howard Taft signed a bill establishing the Lincoln Memorial Commission, which he chaired. Its six other members were all congressmen, including Illinoisan Joseph Cannon, one of the bill's sponsors. This commission was a departure from others instituted to bring about Washington buildings and sculpture because the Secretary of War was not included. The Corps' particularly broad involvement in the Lincoln Memorial, however, was legislated in other ways. The major decision taken at the commission's first meeting on March 4, 1911, was to require the newly-formed Commission of Fine Arts (approved May 17, 1910) to advise on the "location, plan, and designs" of the Lincoln Memorial. The act establishing the Fine Arts Commission required that all federal commissions proposing buildings or sculpture in Washington consult the new commission.³¹

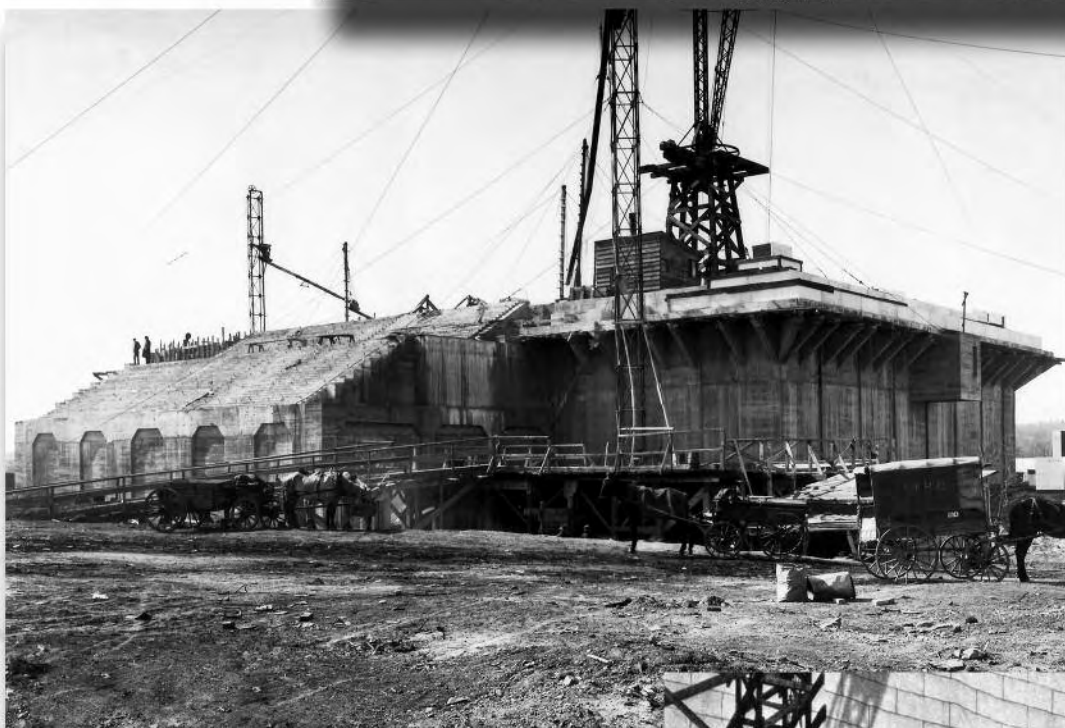
Three of the original seven congressionally appointed members of the Commission of Fine Arts had been instrumental in the formation and execution of the Senate Park Commission's plan of 1902: architect Daniel H. Burnham, landscape architect Frederick Law Olmsted, Jr., and layman Charles Moore, McMillan's trusted secretary. Its other members were respected American artists, and its secretary managed day-to-day operations, advised its members about pending and current legislation, and communicated recommendations to pertinent government officials. From June 17, 1910, the secretary of the Commission of Fine Arts was *ex officio* the Corps Officer in Charge of Public Buildings and Grounds. The first four secretaries of the Commission, who served during the creation of the Lincoln Memorial from 1910 to 1922, were all Army Engineers.³²

At its second meeting on July 25, 1911, the Lincoln Memorial Commission chose a secretary and appointed the *ex officio* Engineer Officer in Charge of Public Buildings and Grounds as its disbursing officer. Colonel Spencer Cosby (1867–1962) held both positions until October 1, 1913; at the August 8, 1911, meeting of the Lincoln Memorial Commission, the engineer officer's responsibilities were increased to "executive and disbursing officer." Thus, duties at both levels of responsibility for achieving the Lincoln Memorial—that of influencing and communicating decisions about its design and that of managerial and construction oversight—were given to Cosby and his successors.

Choosing a design for the Lincoln Memorial was tied directly to the selection of its site, a rancorous process because Cannon opposed the Senate Park Commission's proposed site that was adopted by the Commission of Fine Arts. Cannon opposed the Park Commission from its founding because McMillan bypassed the House Appropriations Committee when Cannon was its chairman. Moreover, Cannon could not imagine that an



September 1, 1914



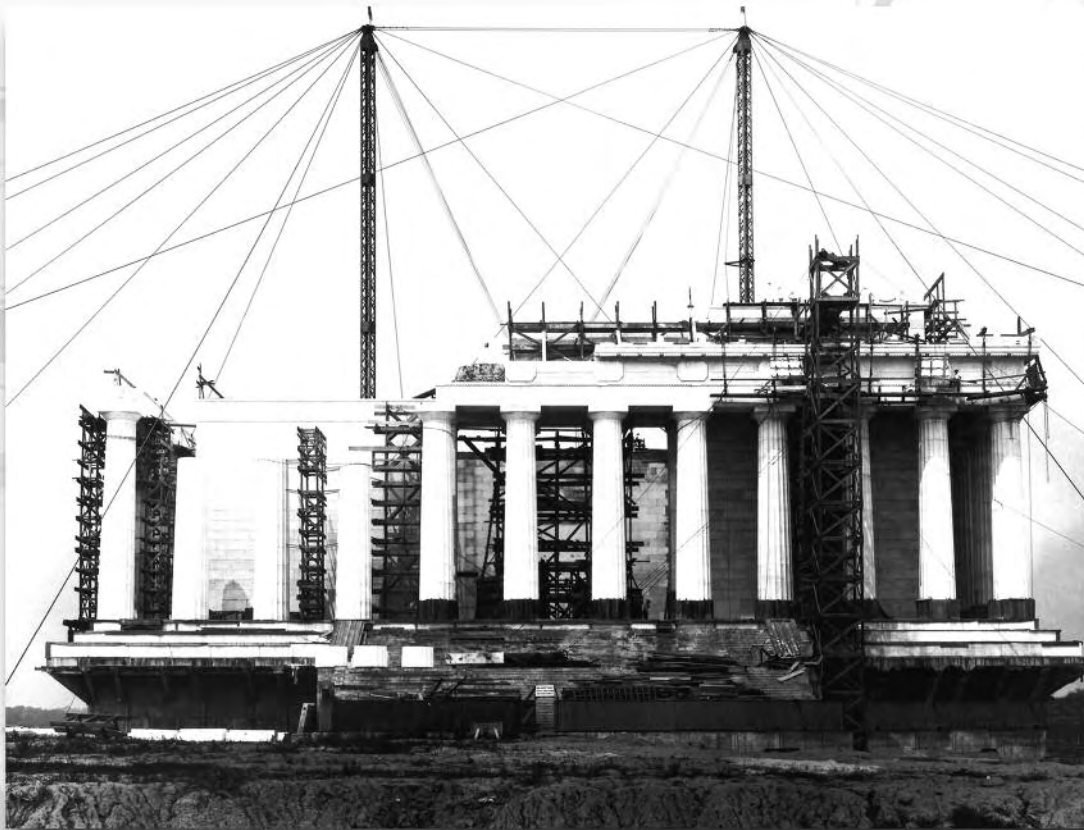
March 1, 1915



ca. May 1916

CONSTRUCTION OF THE LINCOLN MEMORIAL

Because the memorial was located on fill material dredged from the Potomac, its foundations had to be driven about 100 feet to bedrock. The tops of some of the 122 steel and concrete cylinders that supported the memorial are visible in September 1914. By May 1916 the memorial's columns were being assembled. As the war in Europe neared its end, the memorial was approaching completion.



July 1, 1916



July 1, 1918

area he first had known as a tidal marsh, and later as a desolate field of rubble after the Corps' reclamation operations of the 1880s, could ever be made appropriately beautiful to commemorate Lincoln.

A public competition for the Lincoln Memorial was expected and would have been normal for such an important structure, but in August 1911 the Commission of Fine Arts decided to select the young architect Henry Bacon (1866–1924), well respected among architects but without a national reputation. At the August 22, 1911, meeting of the Lincoln Memorial Commission, Cannon had enough votes to pass a resolution allowing the Executive and Disbursing Officer, with the chairman's approval, to contract with New York architect John Russell Pope to make designs for the Lincoln Memorial on two alternate sites. The resolution further authorized Pope to "make use of the office force of the Superintendent of the Capitol Building and Grounds."³³

Thus Cosby oversaw a limited quasi-competition for removing the Lincoln Memorial from its Mall site, favored by one commission for which he was the executive officer and opposed by another for which he was the secretary and executive officer. The engineer favored Bacon's appointment as architect, and the Mall site, the position adopted by President Taft, one of the Senate Park Commission's staunchest supporters when he was Secretary of War and the creator of the Commission of Fine Arts in 1910. As chair of the Lincoln Memorial Commission, Taft was required to carry out any majority resolution and Cosby was required to implement its injunctions. For the next several months, Cosby attended the meetings of both commissions and was privy to their conflicting points of views and strategies, drew upon Army Engineers to gather data about the alternate sites, and communicated this information, as well as some of the changing political scene, to the architects and the various commission members.³⁴

Public and professional opinion was divided over the designs but when the Lincoln Memorial Commission met on January 22, 1912, it was to debate the site and not the relative merits of the designs. Cannon was joined by Speaker of the House, James Beauchamp Clark of Missouri, in supporting first one and then the other of the alternate sites. The meeting ended with the resolution that the Commission of Fine Arts be consulted about erecting an obelisk dedicated to Lincoln similar to the Washington Monument "on a suitable site in the District of Columbia" when the members could not agree on any of the three sites under consideration. The Commission of Fine Arts rejected the idea of an obelisk and voted to retain the Mall site, inviting both Bacon and Pope to refine their designs to fit in West Potomac Park. Speaker Clark's response to his

and Cannon's defeat on the site was to revive the popular idea of the Lincoln Memorial Highway between Washington and Gettysburg, Pennsylvania, one of the earliest ideas of how to memorialize Lincoln. The American Automobile Association was their ally in this protracted effort.³⁵

In order to protect Bacon's building on the Mall, Glenn Brown of the AIA informed Congress that the highway would cost \$34 million to construct and \$3 million annually to maintain in comparison to the \$2 million appropriated for the Lincoln Memorial. The memorial road association countered that the construction cost would be \$1.5 million. The authoritative voice that decided the issue to the satisfaction of Congress was that of Major William V. Judson (1865–1923), Washington's Engineer Commissioner from 1909 to 1913. From his experience building roads in Puerto Rico and knowledge of Hains's survey for a memorial route to Mount Vernon, Judson informed Congress that the Gettysburg road would cost more than \$20 million to build and "considerably over \$1,000,000 for annual maintenance. The estimate of cost covers no ornamental features of any kind, not even trees."³⁶

Bacon and Pope presented their revised designs to the Commission of Fine Arts on March 22 and 23 and to the Lincoln Memorial Commission on March 28. The Commission of Fine Arts preferred Bacon's design, but the Lincoln Memorial Commission could not agree then nor when they met again on April 10. Six days later, however, the vote was four-to-two in favor of Bacon's design. On December 4, 1912, with one dissenting vote, the Senate approved the resolution to build Bacon's Lincoln Memorial at the west end of the Mall and on January 29, 1913, the resolution passed both houses of Congress. Cosby's role then changed from intermediary and facilitator in this intensely political and cultural battle to supervisor of construction. Until he was relieved on September 10, Cosby reviewed foundation blueprints made by Bacon's engineer, L. J. Lincoln, and changed the concrete aggregate formula in the specifications to agree with Lincoln's calculations.³⁷

On September 10, 1913, the day bids for the foundations were opened, Colonel William W. Harts replaced Cosby on the various commissions overseeing the Lincoln Memorial. He was immediately embroiled in a dispute about whether the Secretary of War or the president of the Lincoln Memorial Commission was authorized to award contracts. "It is understood that Mr. Taft is of the opinion that the commission has the power to award the contract, and that the Secretary's [of War] duties were merely perfunctory." The Attorney General ruled that the Secretary of War alone had the authority to award contracts while the Lincoln Memorial Commission had the power to select the design and oversee its

“I feel as if I had been drawn through twenty knot holes, each one smaller than the previous one, and if the process had been kept up much longer, I should have been smaller mentally, morally and physically than the longest knitting needle in Christendom.”

“The Lincoln Memorial appears to be a peripheral temple standing on a hill, but this is a calculated deception, since the building is really more like the top story of a skyscraper that is buried for most of its height.”

construction. The *Washington Evening Star* viewed this as a business matter and urged that re-advertising for bids not cause delay in the memorial’s construction. Bacon wrote Harts: “I feel as if I had been drawn through twenty knot holes, each one smaller than the previous one, and if the process had been kept up much longer, I should have been smaller mentally, morally and physically than the longest knitting needle in Christendom.”³⁸

During his four years as Officer in Charge of Public Buildings and Grounds, Harts presided over the Lincoln Memorial’s construction from sub-foundations to carving the friezes. Lincoln Memorial scholar Christopher A. Thomas noted, “The Lincoln Memorial appears to be a peripheral temple standing on a hill, but this is a calculated deception, since the building is really more like the top story of a skyscraper that is buried for most of its height.” The sub-foundations contain 122 circular concrete piers surrounded by steel cylinders that were driven down to bedrock 100 feet below the surface and anchored to it by reinforcing bars; this method was suggested by one of the contractors who submitted bids. This construction method had been used to erect piers of bridges, but not for dry-land construction. The upper foundations are concrete columns—some hollow and some reinforced—whose arched tops provide the platform on which the memorial’s floor sits forty-five feet above the ground. The foundations were of great import because the memorial’s thirty-six columns representing the states in the Union—ignoring Southern secession when Lincoln was president—were composed of 456 drums, each weighing tons. The total weight of the marble superstructure was calculated at 11,400 tons. Harts approved the Colorado Yule marble, more expensive than eastern marble, for the Lincoln Memorial’s superstructure because it was the best material and the quarry was able to cut the large blocks Bacon wanted.³⁹

The mutual respect of several urbane men—Moore, Harts, Bacon, and sculptor Daniel Chester French—made the Lincoln Memorial a masterpiece. Like Shrady, sculptor of the Grant Memorial, French personally spent more than he earned to produce the seated Lincoln because he made repeated sketch models in varying poses and increased the size until the figure fit perfectly into the space Bacon created for it. The original contract called for a ten-foot-tall bronze statue but French determined that a nineteen-foot-tall marble one was the only solution. When Harts did not reply immediately to his request to amend the contract, French wrote Moore that Harts “has a laudable ambition to build the entire Monument within the appropriation.” Working with the Lincoln Memorial Commission, Harts wrote a supplemental contract for \$43,000 to cover the additional cost of the marble carving company that turned French’s model into the final

sculpture.⁴⁰ Although construction continued during World War I, the memorial would not be finished until near its end.

In his memoirs, Harts noted his role in the creation of the Reflecting Pool between the Lincoln Memorial and the Washington Monument.

*In one of the early laws it had been prohibited to build any lake or lagoon in Potomac Park simply because Speaker Cannon [elected Speaker during the 58th Congress in 1903]...did not like them and thought it would be unwarranted as an expense. But when I excavated for the soil [to fill in around the memorial's raised foundations], water came in and made a lagoon anyway. One day, when Mr. Cannon was visiting the Memorial before it was quite finished as we stood on the steps looking toward the Washington Monument, I asked him why he objected to the lagoon which was an architectural feature already of much beauty....He chewed his cigar for a few moments and then said "The trouble with you fellows is that you start your kindergarten too late." This was quite an admission for him to make of his earlier mistakes. Now the Lincoln Memorial in its majestic beauty justifies all the struggle to select this memorial instead of a highway to Gettysburg.*⁴¹

"The trouble with you fellows is that you start your kindergarten too late.'...Now the Lincoln Memorial in its majestic beauty justifies all the struggle to select this memorial instead of a highway to Gettysburg."

Harts (1866–1961) was born in Springfield, Illinois, the son of a lawyer whose family had emigrated from Bavaria in 1709. He attended Princeton University from 1884 to 1885 but left to finish his education at West Point. When Harts was selected as military aide to the president in 1913, and automatically placed in charge of public buildings and grounds in Washington, he already had an eventful and varied career of postings from the Atlantic to the Pacific coasts.⁴²

In his annual report for 1916, Harts outlined the twenty-six duties assigned to the Officer in Charge of Public Buildings and Grounds, the ongoing care of existing government buildings and parks, and the supervision of newly-launched projects—a variety of monuments, bridges, and buildings. His vivid account of the duties of the president's military aide, ranging from significant to menial, is an excellent record of how the city's military, political, diplomatic, and civilian populations interacted socially. His duties at the White House were "often trying and annoying...[b]ut my position likewise gave me a great prestige. I had to arrange the great receptions, introduce guests to the President on almost all occasions, lead the march to the State dinners, select military and naval aides for White

“[M]y position likewise gave me a great prestige.”

House receptions, musicales and teas.” Conversely, Harts “was responsible for the machinery of the parking of private carriages, at coming functions, the heating and lighting of the building[,] interior decorations and flowers, maintenance of furniture, the cloak-rooms, the green-houses, the guarding and care of the grounds, the upkeep of the building itself, payment of servants and many other items of the drudgery class.” The simultaneous involvement of the Corps’ officers in the multiple layers of official Washington that Harts described helped them speak with authority in all their positions.

ROCK CREEK PARK

The Senate Park Commission’s proposed changes to Washington in 1902 were broad ranging in their extent because Senator McMillan intended the plan to coordinate the government’s ongoing projects relating to infrastructure as well as to the city’s future expansion. The Senate and House Committees on the District of Columbia, working with the Commissioners of the District of Columbia, were its de facto city government, a situation that McMillan balanced with his responsibilities as a member of Congress. Serious citizen involvement in Washington’s municipal affairs had begun with securing amenities that other municipalities were providing for their residents. In early July 1866 a group of Washington residents, including Montgomery Meigs, sent a petition to Congress, asking that “some public park within a convenient distance of their residences, to which they could resort after the labor of the day, and to which they could send their wives and children during the heat of the day, for relief from the heated and impure air of the city” be undertaken.

“With its charming drives and walks, its hills and dales, its pleasant valleys and deep ravines, its primeval forests and cultivated fields, its running waters,...the locality is already possessed with all the features necessary for the object in view.”

A Senate resolution of July 18, 1866, instructed the Secretary of War to “make preliminary surveys and maps of certain tracts of land adjoining or near this city for the purposes of a public park and also a suitable site for a Presidential mansion.” Major Nathaniel Michler was detailed by the Chief of Engineers to this task, and in his report he recommended separate sites to fit each of these purposes. He noted that the alternative of combining them would not be a problem, considering that “so many splendid situations present themselves from which to make a selection.” For the public park he recommended part of the valley of Rock Creek and its tributaries, setting aside from 1,800 to 2,540 acres at a cost to Congress of between \$360,000 and \$580,000. “With its charming drives and walks, its hills and dales, its pleasant valleys and deep ravines, its primeval forests and cultivated fields, its running waters, its rocks clothed with rich ferns and mosses, its repose and tranquility, its light and shade, its ever-varying shrubbery, its beautiful and extensive views, the locality is already possessed with all the features necessary for the object in

view.” He suggested starting the construction of the public park “as soon as practicable. It is a grand and beautiful undertaking and should be prosecuted with the greatest energy.”⁴³

Missouri senator Benjamin Brown, chairman of the Senate Committee on Public Buildings and Grounds, introduced a bill in the Senate in early 1867 that called for establishment of a park within the boundaries suggested by Michler. The bill provided for the establishment of a commission to acquire the necessary land, and it named Michler and then Brevet Major General Meigs to investigate further. The bill was tabled and, as Brown left the Senate at the end of that term, not taken up again. In 1880 assistant engineer commissioner Captain Richard L. Hoxie proposed another plan for Rock Creek valley. To ensure a clean and plentiful supply of fresh water for the growing city of Washington, Hoxie recommended damming Rock Creek to make a 1,300-acre lake above Georgetown, its shores to be used as a park. Banker W. W. Corcoran, Supreme Court Justice William Strong, and Josiah Dent, representing the city’s businessmen, futilely urged creation of the park again in 1883. Additional legislative attempts to create the park failed in 1884, 1886, 1888, and 1889.⁴⁴

On Thanksgiving Day 1888, the wealthy and well-connected Charles C. Glover, a partner in the banking firm of Riggs and Company, invited four influential friends on an outing into the area of the proposed park. After horseback riding through the country, these men agreed to work to get the park authorized. Glover’s guests were his business partners James M. Johnson and Thomas Hyde, lawyer Calderon Carlisle, and Assistant Engineer Commissioner Captain Thomas W. Symonds. Not long after this excursion, Johnson and Carlisle drafted new legislation under the direction of Glover. Glover had a friend and ally in Crosby S. Noyes, editor of the *Evening Star*. In a December 1888 editorial Noyes wrote, “The project of converting the picturesque Rock Creek Valley into a public park has long been cherished by thoughtful citizens as the one thing needed to justify the claim of Washington to a rank among the most beautiful and attractive capital cities of the world.” The following January 11, a citizen’s meeting at the Atlantic Building elected an economically and politically well-connected executive committee to lobby Congress and organize public support for the park. The committee included Glover and Noyes.⁴⁵

Extensive lobbying led to another attempt, in January 1889, to bring a park bill before the House. Its failure led to an effort to add the park to the then-pending National Zoological Park legislation. This had the effect of forcing the passage of the zoo bill, for park opponents agreed to authorize the zoo if park proponents agreed to kill the Rock Creek Park rider. The zoo was authorized on March 2, 1889, and with this partial victory



Park watchman in uniform at the beginning of the twentieth century. The Office of Public Buildings and Grounds argued in its 1904 report that the watchmen had the duties and responsibilities of policemen and should be formally called policemen. The watchmen patrolled the public parks, and each year the office provided statistics on the number of people arrested and their alleged crimes.

National Archives no. 42-SPB-93



Garfield Park, 1910

THE OFFICE OF PUBLIC BUILDINGS AND GROUNDS' EFFORTS TO IMPROVE THE DISTRICT'S PUBLIC RESERVATIONS OFTEN FOCUSED ON LEISURE-TIME AMENITIES FOR WASHINGTON'S CITIZENS. THE 1910 CONCRETE WADING POOL BUILT IN CAPITOL HILL'S GARFIELD PARK AT SOUTH CAROLINA AVENUE AND 3RD AND E STREETS, SE, DOUBLED AS A FOUNTAIN. NEIGHBORHOOD ACTIVISTS SECURED GARFIELD PARK, ONCE SLATED TO CONTAIN A RAILROAD ROUNDHOUSE, AS A CHILD-FRIENDLY PLACE AS CORPS ENGINEERS GRADUALLY MOVED AN EXISTING PLAYGROUND TO A SHADIER CORNER, INSTALLED CEMENT AND GRAVEL WALKS, LAID OUT A TENNIS COURT, AND ERECTED TWELVE GAS LAMPS.

*National Archives no. 42-SPB-5
National Archives no. 42-SPB-111*

Willow Tree Park, 1918

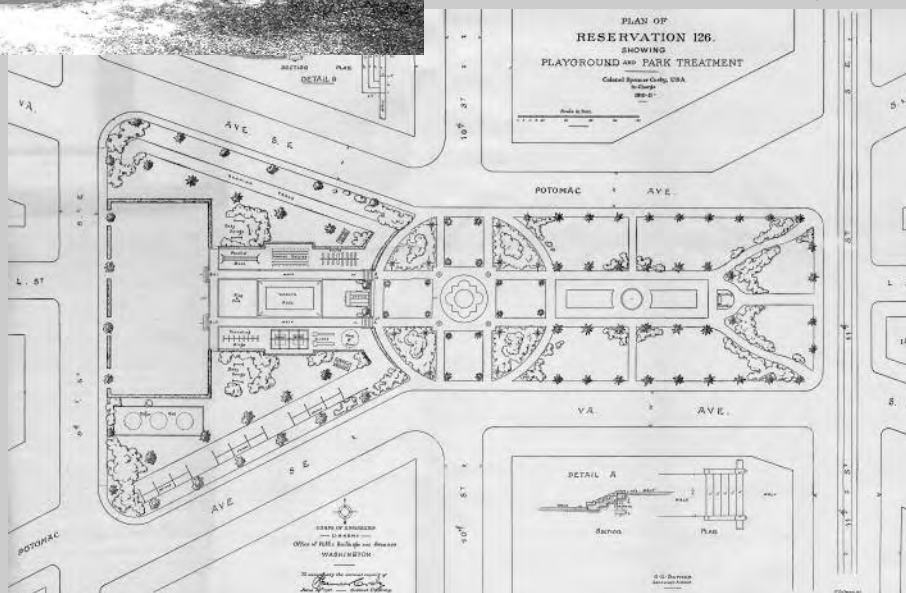


IN MARCH 1914 THE DISTRICT COMMISSIONERS CONDEMNED AN ALLEY BETWEEN 3RD AND 4½ AND B AND C STREETS, SW, AND TRANSFERRED IT TO THE OFFICE OF PUBLIC BUILDINGS AND GROUNDS WHO CREATED WILLOW TREE PARK. OVER THE NEXT SEVERAL YEARS, CORPS ENGINEERS PLANTED TREES, BUILT A WADING POOL, AND ERECTED A NEW LODGE AND "PUBLIC COMFORT STATION," AND DISTRICT COMMISSIONERS ENCLOSED IT WITHIN AN IRON FENCE. THE SITE OF THE PARK IS NOW OCCUPIED BY THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES BUILDING.



Dupont Circle, 1915

Reservation 126, 1911



CHILDREN LIVING NEAR DUPONT CIRCLE IN 1915 ENJOYED FOUR NEW SANDBOXES, TWO OF WHICH WERE REPLACED THE FOLLOWING YEAR BY ONES OF “MORE RECENT DESIGN.” ALL THE NEIGHBORS BENEFITTED FROM THE CORPS’ 1916 PLANTING OF NEARLY 2,000 TREES, SHRUBS, AND ROSE BUSHES.

IN 1911 THE OFFICE OF PUBLIC BUILDINGS AND GROUNDS IMPROVED THE PARK AT RESERVATION 126. LOCATED AT THE INTERSECTION OF VIRGINIA AND POTOMAC AVENUES, SE, THE WESTERN PART OF THE PARK RECEIVED A NEW PUBLIC PLAYGROUND. THE PUBLIC PLAYGROUNDS ASSOCIATION PROVIDED MANY OF THE FACILITIES INCLUDING A WADING POOL, SAND BOXES, AND A COMFORT STATION. THE OFFICE BUILT A RUNNING TRACK AND PLANTED NUMEROUS TREES AND OTHER PLANTS.



Timber footbridge over Rock Creek Park. This bowstring, or grapevine truss, bridge was located near Beach Drive and illustrates the rustic construction in the park.

Library of Congress, Prints and Photographs Division, LC-H823-B08-021

Glover was able to convince powerful Ohio Senator John Sherman to support the full park. Sherman introduced new legislation in 1890. While his bill passed the Senate at the end of January, it got stuck in the House as objections were raised (not for the first time) that the park was simply a device to aid local land speculators, including Senator Sherman, who owned extensive tracts in the northwest suburbs. The bill narrowly failed a vote in April, but was brought up again in May and passed. A conference committee reconciled the Senate and House versions, the final bill passed both houses, and Benjamin Harrison signed it into law September 27, 1890.⁴⁶

The authorizing legislation set aside an area along both banks of Rock Creek from Klinge Ford Bridge to the district line “as a public park or pleasure ground for the benefit and enjoyment of the people of the United States, to be known by the name of Rock Creek Park.”⁴⁷ The park was not to exceed two thousand acres nor was its land to cost more than \$1.2 million. Half of the land acquisition cost and half of future maintenance and improvement costs for the park were to be paid by the District of Columbia. The legis-

lation established a park commission consisting of the Chief of Engineers, the Engineer Commissioner and three citizens, in this case reporter and Civil War veteran officer Henry V. N. Boynton, Smithsonian Institution secretary Samuel P. Langley, and attorney R. Ross Perry. Major General Thomas L. Casey and Colonel Henry M. Robert (perhaps best known as author of *Robert’s Rules of Order*) initially filled the first two roles. Captain William T. Rossell, assistant Engineer Commissioner, served as executive officer to the commission. Secretary Langley was a key figure in the creation of the zoo, and his knowledge of the Rock Creek valley recommended him to the commission charged with establishing the shape and size of the new park.⁴⁸

The commission established a final map of the park by March 1891 and undertook the acquisition of land based on it. Most landowners did not accept the commission’s offers for their property, and legal condemnation proceedings were required to obtain the land, which reduced the parcels’ size to keep costs below the appropriation. All the land was purchased by mid-April 1892, the park containing just less than 1,606 acres. Rock Creek Park was placed under the joint jurisdiction of the District Commissioners and the Chief of Engineers. These men organized themselves into the Board of Control of Rock



Grant Road Bridge across Broad Branch Creek in Rock Creek Park. Built around 1898, this granite and brick arch bridge twenty-one feet wide and with a ten foot span was one of the earliest bridges that the engineers built in the park.

Library of Congress, Prints and Photographs Division, HAER, DC, WASH, 566-2

Creek Park and assumed control of the reservation on New Year's Day, 1895. Captain Gustav Fieburger was the board's first executive officer, and he had direct responsibility for administering and superintending the park.⁴⁹

The established park was not improved quickly. Despite community petitions and resolutions to the District Commissioners and Congress, the first Congressional appropriation for park maintenance came only in 1899. Through 1912 less than \$225,000 had been appropriated in total for park development. What resources were available went primarily to the construction or improvement of roads, bridges, and bridle and footpaths. Existing country roads and trails served as the basis for the Corps of Engineers' efforts to create public access to the park. Captain Lansing H. Beach was largely responsible for initiating the park's road building program in 1897, despite the dearth of funds, and he lessened park labor costs through the use of convict labor. The central role played by Beach and his successor engineers in the creation of Rock Creek's roads led to most of the roads being named after them. The Board of Control named the drive along Rock Creek, which Beach planned and superintended at the turn of the century, in his honor in 1901, while he was Engineer Commissioner.⁵⁰

The *Washington Evening Star* reported on the progress of the park in 1901. "It may be interesting to know...that Rock Creek Park is twice as large as Central Park, upon which Greater New York plumes herself with so much pride, and that in natural beauties Rock Creek



Major General Lansing H. Beach. Captain Beach served as assistant to the Engineer Commissioner of the District of Columbia from 1894 to 1898 and then as Engineer Commissioner from 1898 to 1901. He was a popular commissioner and called the “guardian angel” of Rock Creek Park, whose main thoroughfare was named in his honor. He completed his military career as Chief of Engineers from 1920 to 1924.
Office of History, Corps of Engineers

“The dominant consideration, never to be subordinated to any other purpose in dealing with Rock Creek Park, is the permanent preservation of its wonderful natural beauty, and the making of that beauty accessible to people without spoiling the scenery in the process.”

Park is a hundred times much superior to the much vaunted parallelogram on Manhattan Island.” The paper described Engineer Commissioner Captain Beach as “the guardian angel” of the park, “the moving spirit in the transformation now in progress, and his effective vicar in the good work has been and is Mr. W. B. Richards, of the District engineer office.”⁵¹

The Senate Park Commission’s 1901–02 proposals called for a comprehensive development plan for Rock Creek Park, to prevent piecemeal road and facility building from damaging the landscape. A proposal by the district surveyor in 1916 to create a “Municipal Play Grounds and Recreation Park” within the federal reservation led Chief of Engineers Major General William M. Black to request an assessment from Colonel William W. Harts. Harts, in charge of the Office of Public Buildings and Grounds, pointed out “the urgent need of having a carefully considered plan for the entire park prepared by a competent landscape architect.”⁵² Black therefore ordered Harts in early 1917 to prepare an overall planning study for the park. Just prior, however, Engineer Commissioner Colonel Charles W. Kutz, Black’s colleague on the Board of Control, had contacted Frederick Law Olmsted, Jr. to engage his park-planning services. A contract with Olmsted, although eventually signed, was delayed until May 1917 as the Engineer Commissioner and the Chief of Engineers came to an agreement over whether a civilian firm or a military office was best to plan the park.⁵³

The Olmsted brothers’ December 1918 final plan began, “The dominant consideration, never to be subordinated to any other purpose in dealing with Rock Creek Park, is the permanent preservation of its wonderful natural beauty, and the making of that beauty accessible to people without spoiling the scenery in the process.” Departing from patterns set by Frederick Law Olmsted, Sr.’s plans for Central Park in New York and Frederick Law Olmsted, Jr.’s for Washington’s Mall, the firm recommended division of the valley into “use areas” and “growth areas.” In the former, recreational features were discreetly introduced; in the latter, the natural forest was to be preserved except for necessary tending to prevent fire and disease. A corridor of natural forms, changing with the seasons, would curve through the densely settled district—principles the park’s caretakers followed in developing Rock Creek Park. Before the Olmsted Brothers released their study, Congress acted to integrate the park into the District of Columbia’s park system, assigning administration of the park to the Office of Public Buildings and Grounds on July 1, 1918. Army Engineers superintended the construction and maintenance of the structures, roads, and landscape in the park until it was transferred, along with the rest of the city’s park system, to the National Park Service in 1933.⁵⁴

The establishment of Rock Creek Park stimulated interest in protecting additional Rock Creek valley lands, particularly the stretch between the zoo and the Potomac River. For two decades beginning in 1889 there were two schools of thought about how to reclaim the lower valley. One, supported in large part by Georgetown business interests west of the creek, called for enclosing the stream and filling in the valley, using the new land for a wide ceremonial parkway. City of Washington interests proposed beautifying the existing valley and placing a scenic drive parallel to the streambed. In 1892 Engineer Commissioner Captain William T. Rossell undertook a congressionally mandated study of the closed valley plan; he proposed constructing a five-foot-high arch over the creek, with landfill over and around it to create useable real estate in the valley. While this land might add to the district's tax base, Rossell found the notion of enclosing the stream "wrong in principal and enormously expensive." In 1901 Beach cited crime in the lower valley as his primary reason for supporting the closed valley plan.⁵⁵

Washington's powerful Board of Trade sponsored proposals in 1889 and 1899 for a scenic parkway in the lower valley. In 1900 Congress again looked into the matter, appropriating funds to hire a professional landscape architect to address the problem of linking West Potomac Park and the zoo. Colonel Theodore Bingham, head of the Office of Public Buildings and Grounds, hired New Yorker Samuel Parsons, Jr., (who had worked on Central Park and was a founder of the American Society of Landscape Architects) to investigate the parkway question, as well as propose plans for a park that would integrate newly reclaimed land south and west of the Washington Monument with the rest of the Mall. Parsons's ambitious plan for connecting the zoo with the Mall, while endorsed by the Chief of Engineers and the Secretary of War, was practically and politically unrealistic because it cut broad swaths through densely populated Washington neighborhoods.⁵⁶

Parsons's parkway and Mall plans were designed to provide wide carriageways, either straight boulevards or along broad curves, because carriage drives were a major form of outdoor entertainment for Washington's elite during the 1890s. In 1900 Bingham proposed two plans for the Mall, both designs opening a central, tree-lined roadway beginning at the foot of Capitol Hill and progressing to a *rond point* encircling the



"Preliminary Design for the Treatment of Rock Creek and Potomac Parkway," 1916, drawn by James G. Langdon, Office of Public Buildings and Grounds, who had been hired as the Senate Park Commission's draftsman in 1901
Commission of Fine Arts



THE RESPONSIBILITIES OF THE OFFICE OF PUBLIC BUILDINGS AND GROUNDS EXTENDED TO WASHINGTON’S PUBLIC “RESERVATIONS,” INCLUDING ITS MANY TRAFFIC CIRCLES. REPORTS WRITTEN BY CORPS ENGINEERS IN THE NINETEENTH AND TWENTIETH CENTURIES DETAIL GRASS SEED SOWN, SIDEWALKS POURED, WATER MAINS LAID, AND LIGHTING INSTALLED.

IN 1911 THE OFFICE RELANDSCAPED THOMAS CIRCLE AT THE CROSSING OF MASSACHUSETTS AND VERMONT AVENUES AND 14TH STREET, NW.

CORPS ENGINEERS RAISED THE GRADE OF THE CIRCLE, MOVED FOUR CANDELABRA LIGHT POSTS TO IMPROVE THE MAIN VIEWS OF THE CENTRAL STATUE, AND RECONFIGURED FLOWER BEDS. HOPING TO ALLEVIATE TRAFFIC CONGESTION, IN THE 1950S THE DISTRICT’S HIGHWAY DEPARTMENT TUNNELED MASSACHUSETTS AVENUE BENEATH THOMAS CIRCLE AND CUT 14TH STREET THROUGH IT. IN JANUARY 2005 DISTRICT AND FEDERAL AUTHORITIES BEGAN RESTORING THE CIRCLE TO ITS ORIGINAL APPEARANCE AND PROVIDING PEDESTRIAN ACCESS TO IT.



DURING 1916 THE CORPS' OFFICE OF PUBLIC BUILDINGS AND GROUNDS FOCUSED ON TRUXTON CIRCLE, WHICH HAD BEEN LOCATED NEAR THE INTERSECTION OF FLORIDA AVENUE AND NORTH CAPITOL STREET IN 1891 AS PART OF THE EXTENSION OF L'ENFANT'S PLAN INTO WASHINGTON COUNTY. IN 1900 COL. BINGHAM MOVED A LARGE FOUNTAIN FROM PENNSYLVANIA AVENUE AND 26TH STREET TO TRUXTON CIRCLE. IN 1916 THE CORPS REGRADED, RELANDSCAPED, AND INSTALLED SEATS AT THE CIRCLE'S EDGE. THREE DECADES LATER, THE D.C. HIGHWAY

DEPARTMENT ARGUED THAT "THE OBSTACLES WHICH IT PRESENTS TO THE ORDERLY AND RAPID FLOW OF TWENTIETH CENTURY TRAFFIC HAS MADE IT ONE OF THE MOST INCONVENIENT AND HAZARDOUS INTERSECTIONS IN THE METROPOLITAN AREA" AND TRUXTON CIRCLE WAS RAZED IN 1947. IN 2004, WITH THE SUPPORT OF THE BLOOMINGDALE NEIGHBORHOOD ASSOCIATION, THE CITY'S DEPARTMENT OF TRANSPORTATION BEGAN STUDYING THE FEASIBILITY OF RESTORING THE CIRCLE AS PART OF THE REVITALIZATION OF THE NORTH CAPITOL STREET CORRIDOR.

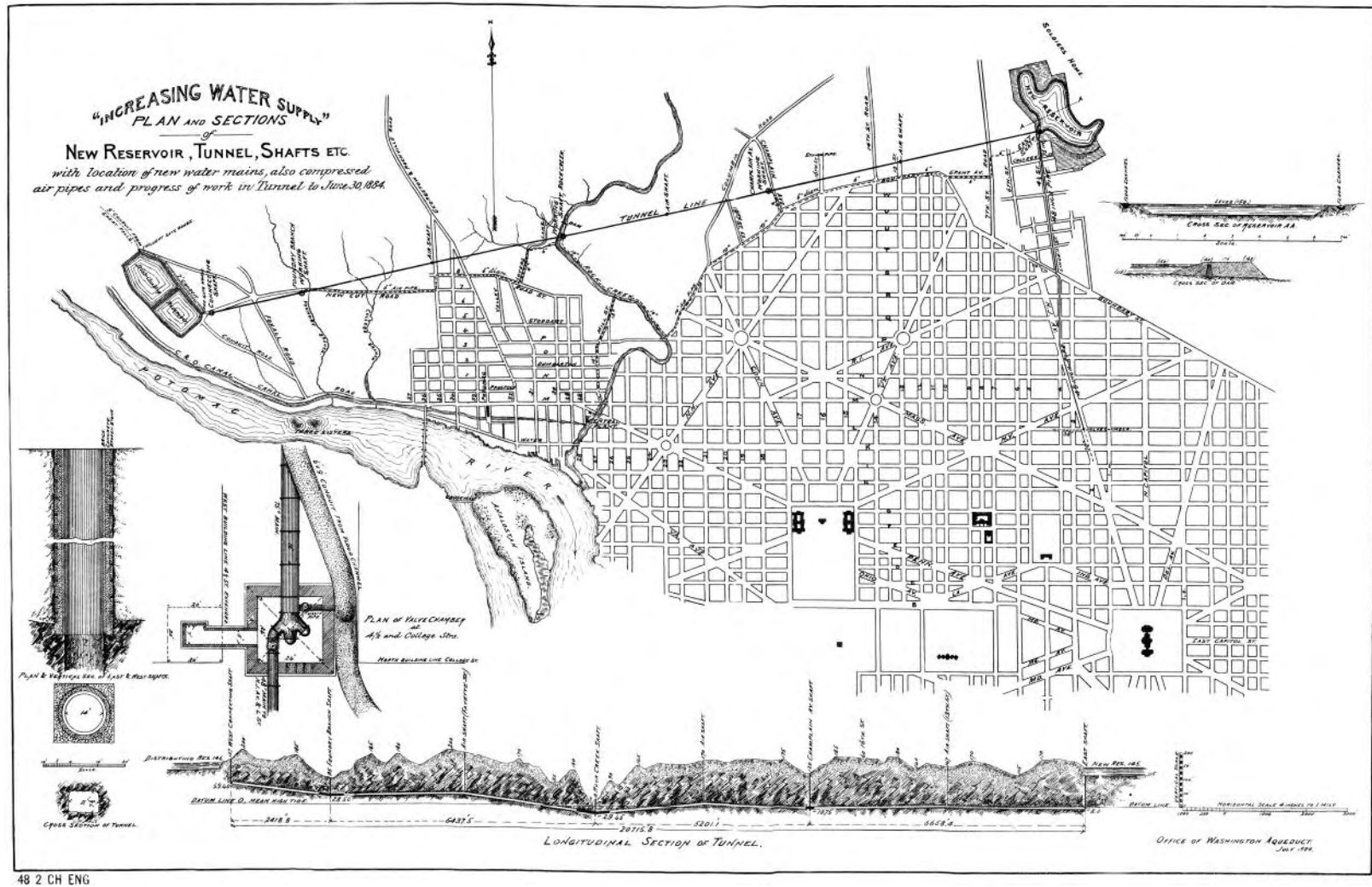
Washington Monument that connected to drives leading to Rock Creek. Bingham's plans also included pleasure drives around the perimeter of Potomac Park, including Hains Point, a feature of both areas today. Early in 1900 Bingham also hired Chicago architect Henry Ives Cobb to execute a design for "suggestions for locating future Government Building in the District of Columbia" that centered on a diagonal avenue through the Mall from the foot of Capitol Hill to the foot of New York Avenue, the terminus of the proposed Memorial Bridge. In all three of these cases, the intimate nature of the Mall's extensive picturesque garden would be preserved while providing drives through it; Bingham opposed the Senate Park Commission's open treatment of the Mall because it destroyed its bucolic character. A pragmatist, either by nature or training, Bingham (like most Washingtonians at the time) thought of the Mall as a pedestrian precinct, a shaded refuge rather than a monumental setting for public buildings.⁵⁷ None of these plans, however, would be executed until after World War I.

WASHINGTON AQUEDUCT

Population expansion in the federal city during and after the Civil War led, in the 1870s, to numerous calls for increased capacity in the city's water supply, the infrastructure need that the Corps had initially built and now needed to expand. Montgomery Meigs himself advocated the construction of a second distributing reservoir, reviving an unrealized component of his original 1853 plan. On July 15, 1882, Congress approved two solutions to the water problem. Following a recommendation first put forward by Lieutenant Colonel Thomas L. Casey in 1881, it permitted extension of the Great Falls Dam to the Virginia riverbank, and it authorized a second distributing reservoir and second tunnel from Great Falls. The dam spanned the Potomac by 1886, allowing the level of water above the intake to be controlled for the first time.⁵⁸

Major Garrett J. Lydecker, engineer commissioner from May 1882 until May 1886, was given charge of the aqueduct in August 1882—one month after Congress authorized the new reservoir.⁵⁹ To improve water flow to the eastern parts of the city he chose the site of Smith Spring near Howard University for the new storage facility, on high ground east of Rock Creek. Rather than build a covered conduit from the Potomac, as Meigs had done, Lydecker planned to bring water through a deep, twenty-one-thousand-foot-long tunnel under the Rock Creek valley. Expecting favorable conditions that would not require a lined tunnel, Lydecker wrote, "There is no reasonable doubt that this tunnel can be carried through solid rock in a direct line between the terminal points."⁶⁰

*"[S]ubstantially the whole
and every part of the lining
of the tunnel is absolutely
and enormously defective."*



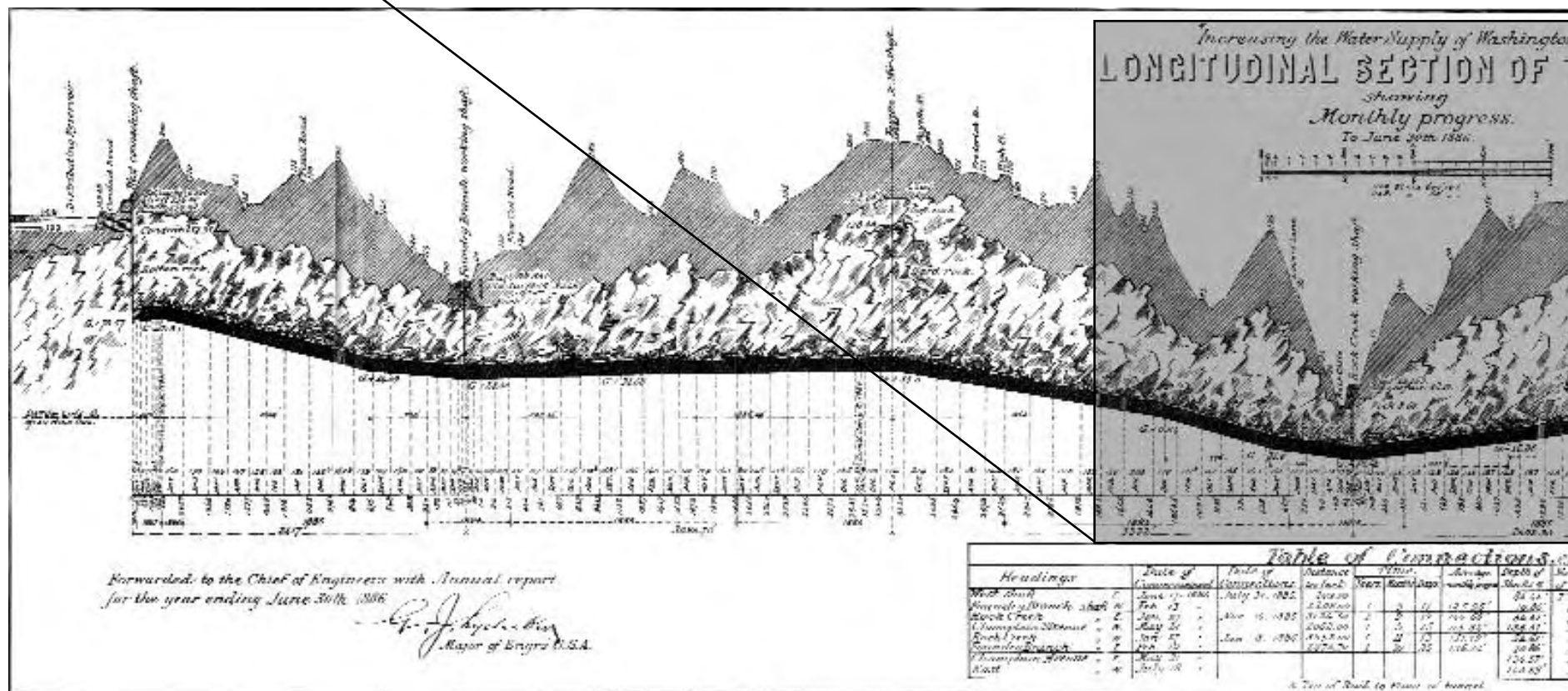
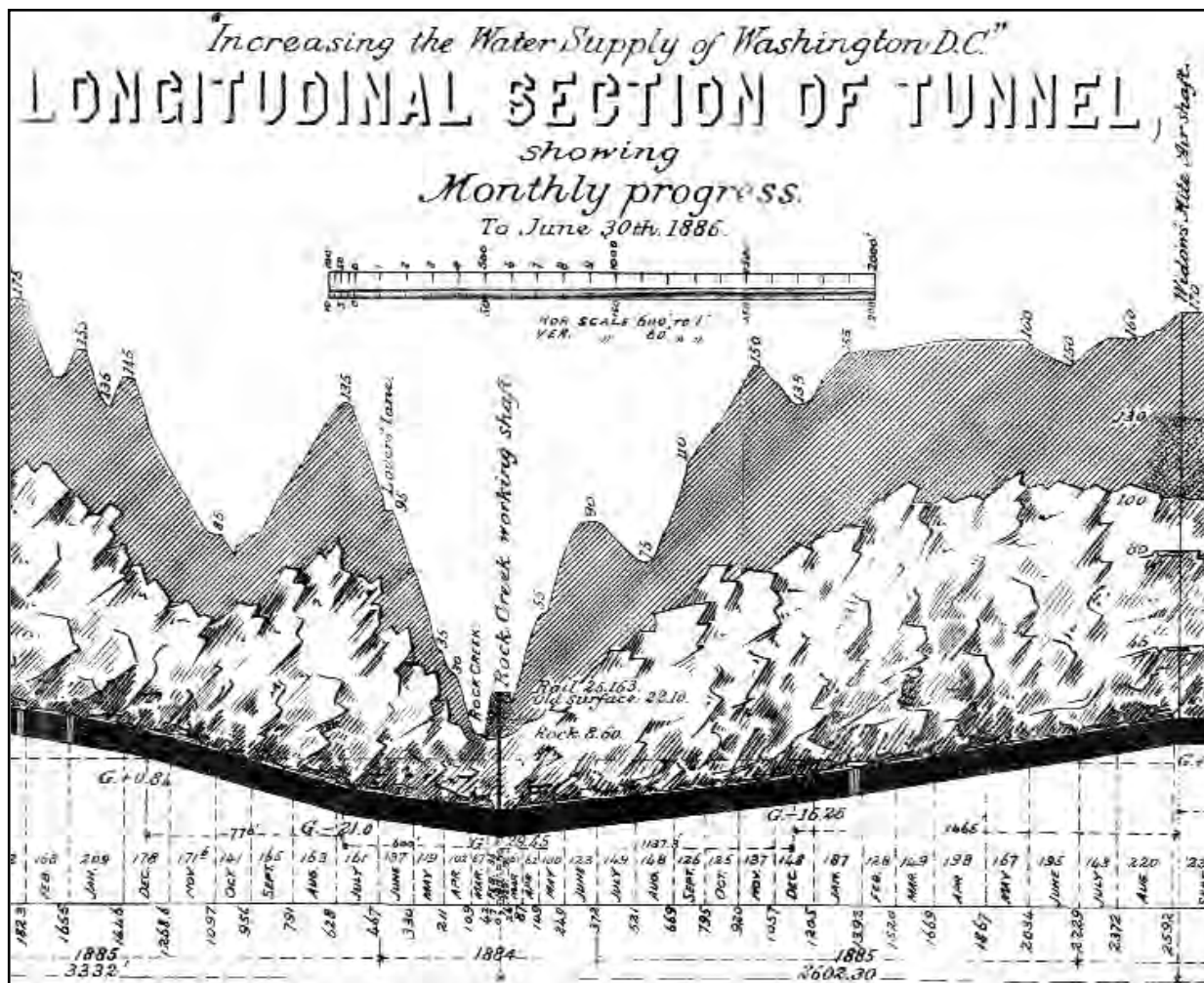
Numerous difficulties plagued construction of the Washington City Tunnel. Incomplete testing of the rock conditions along the route failed to reveal the poor quality of the rock, and the engineers realized after work began that much of the tunnel would have to be lined, adding significantly to the cost. When a new civilian assistant engineer resurveyed the route in 1885, he discovered misalignments that could have kept the various sections of the tunnel construction from meeting. Shoddy workmanship in the lining of the tunnel and escalating costs led to a congressional investigation of the project beginning in October 1888. At this point, the reservoir was almost done and the mains connecting it to downtown already laid.⁶¹

A select congressional committee, advised by a "board of three highly qualified civil engineers" that included Joseph M. Wilson of Philadelphia, criticized the contracting practices, management, and construction quality of the project. "It appears beyond all question," the committee's report declared, "that substantially the whole and every part of the lining of the tunnel is absolutely and enormously defective." With evidence of the contractors bribing government inspectors, the committee found Lydecker and his assistants negligent in the

Plan of the New Washington City Tunnel from the Distributing Reservoir (later renamed the Georgetown Reservoir) to the New Reservoir (later named the McMillan Reservoir in honor of Senator James McMillan who during the 1890s worked tirelessly to ensure a clean water supply for Washington), located east of Howard University, 1884
 Office of History, Corps of Engineers, ARCE 1883

"Longitudinal Section of Tunnel Showing Monthly Progress to June 30th, 1886." This detailed drawing shows the ambitious plan to build a four-mile-long tunnel through the upland sections of the District of Columbia. Poor information on soil conditions and contractor problems led Congress to halt construction of the tunnel in 1888. The Corps resumed work in 1898 and completed the tunnel in 1901.

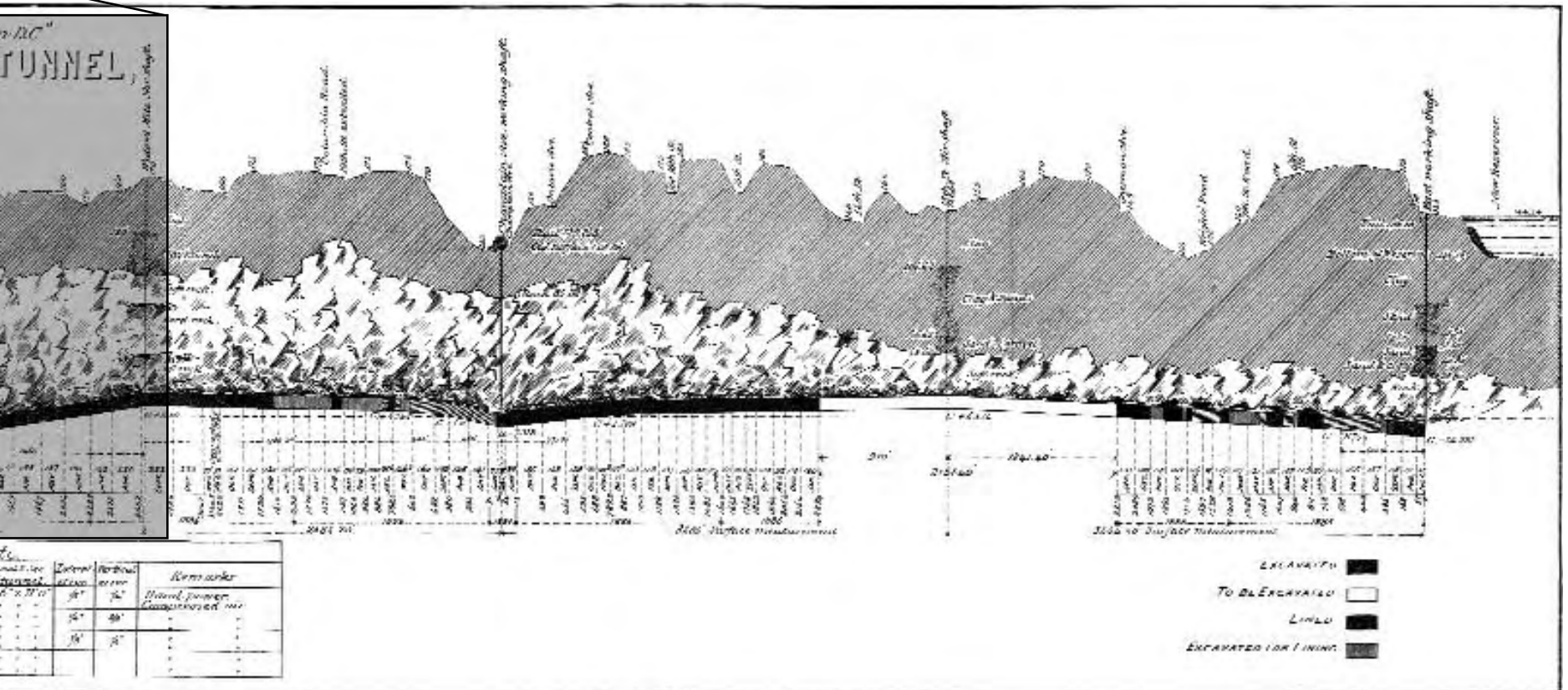
Office of History, Corps of Engineers, ARCE 1886



project's oversight and the tunnel was abandoned. Acknowledging the continued need for better water service to the eastern parts of the city, the board of engineers recommended the speedy installation of additional mains out of the original distributing reservoir. With money approved March 2, 1889, the new officer in charge of the Aqueduct, Lieutenant Colonel George H. Elliot, brought the new pipes into use just over a year later.⁶²

The city water was frequently turbid, however, a condition long noted by the officers in charge of the Aqueduct. Although it remained healthier to use than water from the city's numerous wells, its aesthetic qualities drove many citizens back to their wells. Public Health officials felt this preference left the city vulnerable to outbreaks of contagious disease, particularly typhoid fever. The Senate ordered a study of water filtering at the beginning of 1886. Completed by engineer Captain Thomas W. Symons, the study recommended filtration; however Colonel Elliot, in charge of the Aqueduct, did not feel filtration was necessary. Elliot moved, nevertheless, to add sedimentation capacity to the system by bringing the idle receiving reservoir near the Little Falls Branch back into service in 1893-95.⁶³

The *Washington Star* commented, "Our nectar of the Alleghenies will, it is asserted, be as bright and clean as liquid diamond. Every time a Washingtonian holds a glass of redeemed Potomac water to his lips, he will say, 'Here's to Colonel Elliott.'" But this



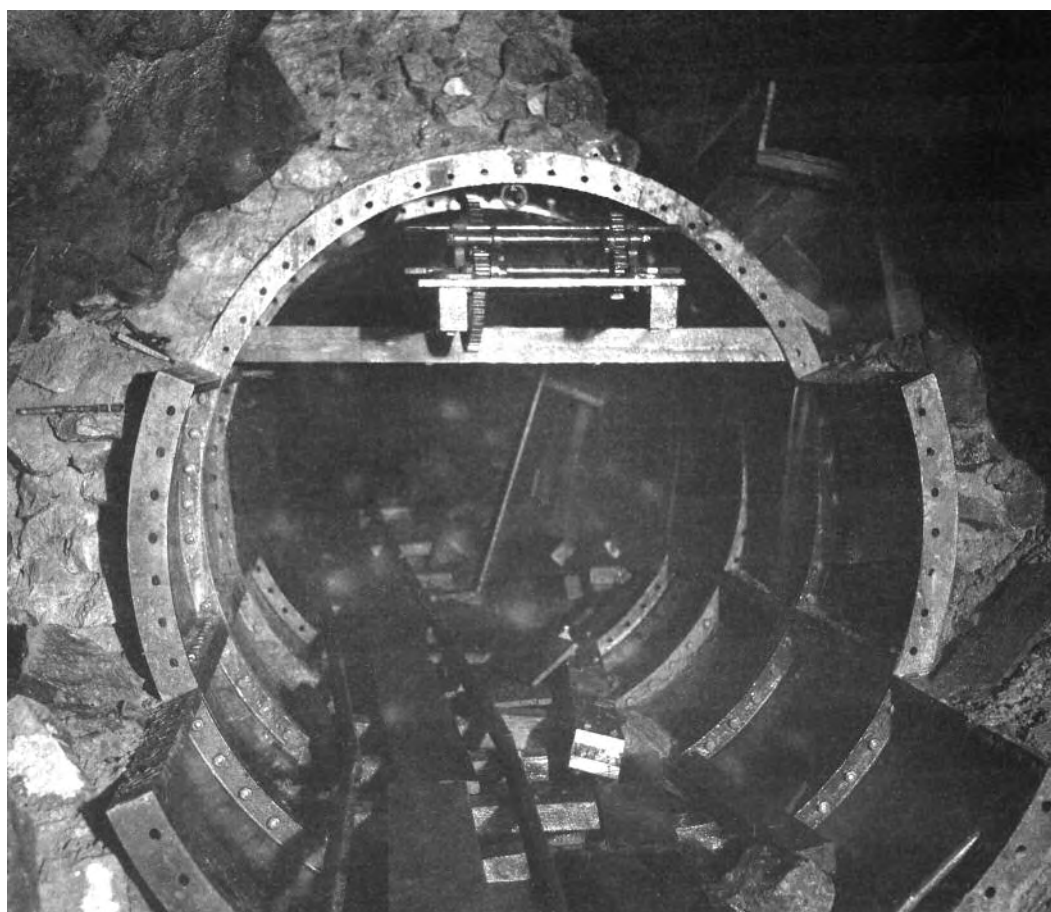
Foundry Branch shaft leading to the tunnel connecting the distributing reservoir and the new reservoir, 1884. The engineers built three shafts at Foundry Branch, Rock Creek, and Champlain Avenue.

*Washington Aqueduct Division,
Baltimore Engineer District*



Section of the Washington City Tunnel under construction in July 1899. The section of the tunnel under Rock Creek was lined with cast-iron when tunnel construction recommenced in 1898.

*Washington Aqueduct Division,
Baltimore Engineer District*





effort had limited effect, and the *Washington Star* printed further comments a year later: “A person of cleanly habits, who knows he is not as dirty as the contents of his tub, hesitates long before he takes his dip....But when it comes to using the stuff as a beverage, the matter takes on even a worse aspect. It is as dark in color as a glass of bock beer, and not nearly as translucent, or anything like as tempting.”⁶⁴

Thinking more sedimentation would help, on March 2, 1895, Congress ordered a detailed report on the feasibility of completing the second reservoir and its flawed tunnel. A board of four army and two civil engineers found in favor of the project, and in 1896 the Chief of Engineers asked Congress for money to resume work. Within two years money was appropriated and work resumed at the end of 1898. The tunnel was finished in 1901, and the reservoir was brought into full operation at the beginning of 1902.⁶⁵

The Senate again requested information on filtering the Potomac water in January 1898, and the entire Congress ordered another filtering study in June. Lieutenant

Built to conceal the sluice gates that directed water under Conduit Road (now MacArthur Boulevard) to the tunnel, the gatehouse completed in 1902 was designed to resemble the Corps of Engineers’ castle insignia on all four of its facades.
Washington Aqueduct Division,
Baltimore Engineer District

Workers at the McMillan plant shoveling sand into a movable ejector during the construction of the slow sand filter plant, 1904. When the plant was in operation, workers shoveled about two inches of dirty sand into movable ejectors, like the one shown here, for transfer to the sand washers. In the background are the round towers used to store clean sand.

Now vine-covered, the towers became local landmarks west of North Capitol Street.

*Washington Aqueduct Division,
Baltimore Engineer District*



Slow sand filter at the McMillan Slow Sand Filter Plant, ca. 1910.

Twenty-nine slow sand filters, each one acre in size, filtered water through more than two feet of sand. The piles of clean sand shown here were dumped into the filters through manholes in the roof and distributed evenly over the sand already in place.

*Washington Aqueduct Division,
Baltimore Engineer District*



McMillan Reservoir with fountain in the foreground. In 1913 the citizens of Michigan paid for a fountain designed by Herbert Adams to honor their former senator. The federal government paid for the base and landscaping designed by Charles Adams Platt who also designed the Freer Gallery on the Mall.

*Washington Aqueduct Division,
Baltimore Engineer District*



Colonel Alexander M. Miller reported on March 28, 1900, recommending construction of mechanical (or rapid-sand) filters at the new Howard University Reservoir. Local professional and citizen's organizations objected to the chemicals used in this filtration process, and the Senate Committee on the District of Columbia chaired by James McMillan (who had been very involved in public works in Detroit before being elected to Congress in 1889) held hearings on the issue. A subsequent Senate-appointed committee of civilian experts recommended chemical-free slow-sand filtration, and Congress approved construction of such filters on March 1, 1901. This effective filtering system, substantially designed by Miller, was built between the spring of 1903 and the end of 1905. The following year, Secretary of War William Howard Taft ordered the reservoir and new filters named after the late Senator McMillan, who died in 1902.⁶⁶

POTOMAC RIVER FLATS RECLAMATION

In 1897 Washington banker Charles C. Glover, a longtime advocate for the reclamation of the Potomac flats, persuaded Congress to order the 628 acres of land reclaimed by the engineers since the 1880s “forever held and used as a park for the recreation and pleasure of the people.”⁶⁷ Though land building continued until 1913, the Washington District gradually transferred the reclaimed area to the Office of Public Buildings and Grounds,

*Potomac Park looking northeast
to Washington Monument with
drive along the Tidal Basin, 1906*
National Archives no. 77-H-3334F-27



(Top)

Potomac Park, the Tidal Basin, the Outlet Gate, and Washington Channel from the Washington Monument, 1899. The propagating gardens are in the foreground and the reclaimed land along the Tidal Basin and in East Potomac Park is largely unlandscaped.

National Archives no. 77-H-3048-11

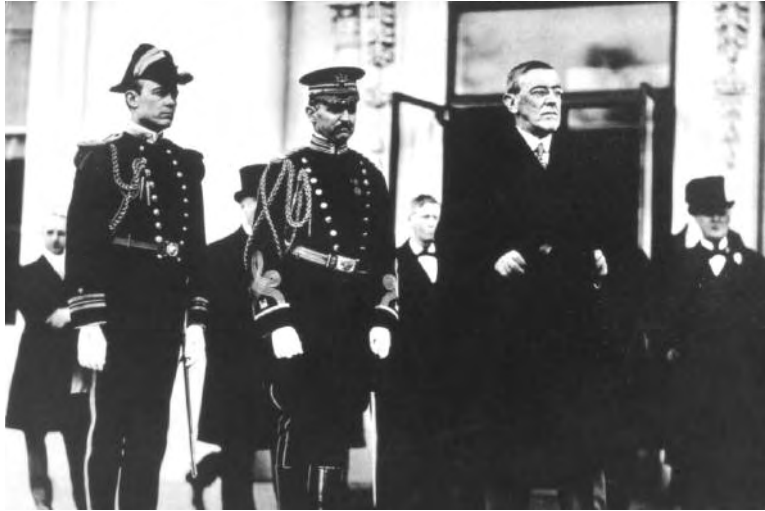


(Bottom)

Potomac Park, the Tidal Basin, the Outlet Gate, and Washington Channel from the Washington Monument, 1910. By 1910 the propagating gardens had expanded and new buildings began to appear on the borders of West Potomac Park. Landscaping along the Tidal Basin improved significantly but East Potomac Park remained less improved. The new railroad (1904) and highway (1906) bridges appear in the upper right with the future site of National Airport in the distance.

National Archives no. 66-DC-19





beginning in 1901 with the land between the east side of the Tidal Basin and the monument grounds. Although some improvements had already been done on this land—the District Commissioners built a bathing beach after 1890—construction of a major park in place of the foul marsh had become possible.⁶⁸

Theodore Bingham, Officer in Charge of Public Buildings and Grounds from 1897 to 1903, was an enthusiast convinced that parks improved the health and happiness of the “toiling masses crowded together in cities,” and he planned drives, Japanese gardens, nurseries, polo grounds, athletic and military parade fields, and an electric fountain for the Tidal Basin in his grand scheme for the area. In the comparatively small first parcel transferred to his care, Bingham in 1902–03 raised the revetment wall along the Tidal Basin and completed it where the district bathing beach had been. He cleared and graded the area and built a 50-foot-wide macadam drive along the east side of the Basin. (This road opened in October 1903. The Annual Report for 1904 mentioned, “Saturday afternoons between 4 and 6 o’clock, have, by authority of the Chief of Engineers, been set aside for speeding purposes.”) Through his efforts, the old two-story house that canal lock keepers had used as a gatehouse was deeded by the company’s trustees to the Chief of Engineers for use by the public. Repaired and refurbished, the building became a watchman’s lodge. Around it, workmen swept away sheds and mounds of rubbish, built a drive, planted trees, and seeded lawns.⁶⁹

Under Bingham’s successors, the Potomac Park area grew in size as district Engineers finished dredge-and-fill operations and transferred newly-made land to the office of buildings and grounds. In November 1903 the engineers added the land between the Tidal Basin and railroad causeway at the end of Long Bridge to the park, and by 1908, when Congress authorized the extension of B Street to the Potomac and the creation of a riverside drive, the rest of

(Above left) Colonel Spencer Cosby (center) with President Woodrow Wilson on the White House north portico prior to Wilson’s inauguration, March 4, 1913. Officers in Charge of Public Buildings and Grounds had many duties including leading roles at inaugurations.

Office of History, Corps of Engineers, Cosby Personal Papers

(Above right) Reviewing stand for the inaugural parade, March 4, 1913. From left to right, Col. Spencer Cosby, Mrs. Wilson, Maj. Gen. Leonard Wood (Chief of Staff of the Army), and President Wilson. Cosby had a long association with Washington, serving as Washington District Engineer from 1905 to 1908, briefly in 1908–09 as Engineer Commissioner, and then as Officer in Charge of Public Buildings and Grounds and Military Aide to the President from 1909 to 1913. His thirty-seven year career in the Army ended with his retirement in 1928, and he died in Washington in 1962 at the age of ninety-four.

Office of History, Corps of Engineers, Cosby Personal Papers



Potomac Drive lined with statues from the St. Louis World's Fair, August 1905. As the Washington Engineer District created land in Potomac Park, it turned the new land over to the Office of Public Buildings and Grounds, which built roads and provided landscaping and other attractions.

National Archives no. 77-H-3334F-23

West Potomac Park was under Engineer care. “Construction of drive-ways, bridle paths, walks, grading and sowing lawn areas, laying water and drain pipe and planting trees and shrubs” continued throughout this time and into the 1910s. The end result was an orderly and scenic park with ample roads and paths, bathing facilities, a boathouse and dock, a nursery, extended propagating gardens, and an athletic field. In 1914, the year Congress officially made Potomac Park part of the D.C. park system and reaffirmed the Chief of Engineers’ jurisdiction over it, the engineers improved earlier equestrian facilities and laid out a small golf course. Such recreational amenities have survived into the twenty-

first century. Less extensive improvements to East Potomac Park, southeast of Long Bridge, began in 1912, although a comprehensive plan sent to Congress in 1916 proposed substantial facilities for making the park a “public recreation ground.” Most of these were never built.⁷⁰

In March 1912 final work began on one of the best-known Potomac Park improvements, as three thousand flowering cherry trees, a gift from the municipality of Tokyo, arrived to replace an earlier shipment that had proven to be diseased. First Lady Helen Herron Taft planted the first one on March 27, and by the end of April the engineers had overseen planting of the remainder around the Tidal Basin, where eleven years of care had created a perfect setting. In 1909 Colonel Spencer Cosby, Engineer Officer in Charge of Public Buildings and Grounds, had suggested that the cherry trees be planted around the Tidal Basin. After the second shipment of healthy trees was thriving, Cosby wrote Tokyo’s mayor, predicting they would become a great American tourist attraction.⁷¹

ANACOSTIA RIVER FLATS RECLAMATION

Annual freshets, runoff from upriver agricultural land clearing, and extensive sewage dumping had narrowed the Anacostia River and created extensive tidal flats along both its banks. In 1891 Hains, in his last months with the Washington Engineer District, reported to the Chief of Engineers on the survey he had been assigned of that portion of the Anacostia in the District of Columbia. Hains proposed dredging a channel from the river’s mouth to the Navy Yard. Just as he had done in the Potomac during the 1880s, the spoils from the Anacostia dredging would be used to reclaim the river’s marshes. This effort would solve the problems of the approach to the Navy Yard being “narrow and crooked” and prevent the growth of unhealthy tidal flats. The Washington Engineer District oversaw limited dredging and reclamation below the Navy Yard in 1892.⁷²

As the outline of the riverbank began to change, the District Commissioners asked the Secretary of War to fix harbor lines for the river. He created a board of engineer officers in 1892 that drew bulkhead and wharf lines for the section of the Anacostia River below the Pennsylvania Avenue Bridge. These development plans were a necessary guide for future reclamation work. In 1898 Congress again ordered an Anacostia survey and Lieutenant Colonel Charles J. Allen recommended further work to complete Hains's initial proposals. Dredging and land reclamation would provide for improved "access to the navy-yard," "increased facilities for commerce and navigation," and "removal of unsanitary conditions." No money was made available. In 1902 Allen was required to survey the land owned by the government within the Anacostia River flats, so as to assure proper title, and four years later Congress asked the District Commissioners to "report upon the improvement of the so-called flats...with recommendation and estimates of cost." The Commissioners repeated Allen's 1898 estimates.⁷³

Increased development along the river's tributaries in the late nineteenth and early twentieth centuries increased the amount and rate of runoff and floods became more frequent and severe. Finally in 1911 money was appropriated for completing the reclamation of the Anacostia flats and an engineer board, comprised of the Officer in Charge of Public Buildings and Grounds, the Engineer Commissioner, and a District Engineer developed plans. Anacostia Park was developed during the 1920s and in 1927 Congress designated an area above the park as a "tree farm," the beginnings of the National Arboretum and Botanic Garden. Influenced by the 1902 McMillan commission recommendations, the engineer board recommended the construction of a dam and lock across the Anacostia River aligned with Massachusetts Avenue, SE, to protect the upper Anacostia River from Potomac River freshets and to create an aquatic park near their confluence for recreation. The Anacostia's dam would have functioned similarly to the Potomac Tidal Basin, with "influent gates at the upper end and effluent gates at the lower end." By 1915 additional engineer studies showed this dam would have detrimental effects, and the engineer board eliminated it in favor of a modified "aquatic park separated from the [Anacostia] river channel by a continuous bank." Kenilworth Gardens, a private water garden begun in the 1880s, in 1938 became part of the Anacostia's extensive waterfront park. As with the development of East and West Potomac Parks, Olmsted "was appointed [in 1915] by the Commission of Fine Arts a committee of one to consult with the board on the proposed modifications" that led to abandoning the bridge in favor of extensive parklands.⁷⁴

CORPS ENGINEERS HAVE TRADITIONALLY SUPPORTED AESTHETIC ELEMENTS ASSOCIATED WITH WASHINGTON'S PUBLIC BUILDINGS AND SPACES, PARTICULARLY OVER-SEEING THE DESIGN AND INSTALLATION OF THE CITY'S SCULPTURAL WORKS SUCH AS THOSE ON BRIDGES.

ROLAND HINTON PERRY'S PAIR OF 1908 CAST-CONCRETE LIONS GREET TRAVELERS APPROACHING THE TAFT MEMORIAL BRIDGE THAT CARRIES CONNECTICUT AVENUE ACROSS ROCK CREEK VALLEY. ERNEST C. BAIRSTOW DESIGNED THE BRIDGE'S ORNAMENTAL CAST-IRON LAMP POSTS, EACH FEATURING AN EAGLE ATOP A STANDARD WHOSE BASE IS DECORATED WITH CLASSICAL GARLANDS, ACANTHUS LEAVES, AND SCROLLS.



THE 16TH STREET BRIDGE CROSSING PINEY BRANCH VALLEY, ERECTED BETWEEN 1907 AND 1910, IS THE FIRST PARABOLIC ARCH BUILT IN THE U.S. ALEXANDER PHIMISTER PROCTOR'S FOUR BRONZE TIGERS FLANK THE BRIDGE.

*Library of Congress, Prints and Photographs Division, HAER, DC, WASH, 560-15
Washingtoniana Division, D.C. Public Library
Library of Congress, Prints and Photographs Division, HAER, DC, WASH, 598-4
Library of Congress, Prints and Photographs Division, LC-USF34-060448-D*

PROCTOR ALSO DESIGNED THE SEVEN-FOOT-TALL BRONZE AMERICAN BISON ON THE CURVED Q STREET BRIDGE, POPULARLY KNOWN AS THE "BUFFALO BRIDGE," THAT CONNECTS GEORGETOWN TO THE SHERIDAN CIRCLE AREA.



**THREE OF LEON HERMAN'S 1935 ART DECO
RELIEF SCULPTURES DECORATING THE ABUT-
MENTS OF THE CALVERT STREET BRIDGE
DEPICT TRANSPORTATION BY WATER, AIR, AND
HIGHWAY. THE BRIDGE'S ARCHITECT, PAUL
CRET, DESCRIBED THE FOURTH FIGURE,
REPRESENTING RAIL TRANSPORT, AS "A MALE
FIGURE, TYPICAL OF THE POWERFUL MODERN
STEAM ENGINE, FLYING OVER THE NETWORK
OF TRACKS COVERING THE COUNTRY."**



Railroad and highway bridges constructed across the Potomac in the early years of the twentieth century. This 1930 photograph shows the two bridges and the popular Arlington beach and amusement park along the Potomac where the highway curves north along the riverfront. Washington's earliest airports and the Pentagon were built in the large fields at the bottom of the photograph.
Office of History, Corps of Engineers

POTOMAC RIVER BRIDGES

The Washington District Engineers saw one major bridge to completion during the Progressive Era, repaired another, and planned a third. At the time of the Civil War, the mile-long Long Bridge that ran from the foot of 14th Street to Arlington, Virginia, was two-thirds rock causeway with pile sections and a draw at either end. Its wooden superstructure and draws were rebuilt by the Quartermaster's Department during the fall of 1861. In 1864 a parallel bridge set on piles was constructed as a railroad connection. After a few years of maintenance by the Corps, the bridge was transferred to the Baltimore and Potomac Railroad in 1870. Shortly thereafter, the whole length of the structure, including roadway, crib-work, piling, railing, and causeway, was damaged and required reconstruction.⁷⁵

By the 1890s it was becoming increasingly impractical to repair and rebuild the bridge continually. By this time the railroad bridge was underlaid with a substantial amount of rock shoring dumped under its spans over the years to improve stability, and the structure blocked the free flow of the Potomac, contributing to flooding on the Mall during icy conditions. A flood in 1889 prompted the Senate to order a report on the reconstruction of the bridge, but

Colonel Hains's resulting plans were not acted upon. The general provisions of the railway act of 1901—the same one that eliminated grade crossings and threatened the Mall with a viaduct—directed the Baltimore and Potomac Railroad (a division of the Pennsylvania Railroad) to construct a new railroad bridge. This legislation also charged the Secretary of War (i.e., the Corps of Engineers) with creating a new highway bridge just up the river.⁷⁶

The steel plate-truss railroad bridge opened in August 1904. Just up river, the Pennsylvania Bridge Company constructed the matching highway bridge beginning in October 1903. A board comprising Lieutenant Colonel Charles J. Allen, the Washington District Engineer, and three other officers chose its design—eleven steel-plate-truss spans with a central swing span. The 2,234-foot bridge, costing \$1,189,702, opened to traffic in December 1906. Together the bridges reduced hazards to Alexandria traffic while ending floods caused by the old Long Bridge.⁷⁷

The Washington District also helped write a new chapter in the continuing Memorial Bridge story. In response to congressional requests, the engineers carried out surveys in 1886 and 1890 for a potential bridge connecting the Naval Observatory grounds to the Arlington estate property. In 1899 Lieutenant Colonel Charles J. Allen joined Stanford White, Major T. W. Symons, Captain David D. Gaillard, and local architect James G. Hill on a jury that secured plans from prominent American bridge designers. Those invited to submit plans were William H. Burr, William R. Hutton, L.L. Buck, and George S. Morison. The jury chose Burr's \$3.7 million masonry arch design, which included a steel draw span. The Secretary of War submitted the results of the competition to Congress in April 1900, but no appropriations were made to undertake construction.⁷⁸

Along with construction of the highway bridge and the potential Memorial Bridge, the engineers undertook additional river-crossing work at the turn of the century. Between 1897 and 1907 they rebuilt three piers of the Aqueduct Bridge, and recommended a new bridge to connect Georgetown with Rosslyn. Congressional action on this matter did not follow for a decade. In 1897 Captain Gaillard submitted both steel and stone-arch bridge designs to carry Massachusetts Avenue across Rock Creek. Congress did not fund this engineer project either, leading the city to erect a simple culvert for the avenue in 1901.⁷⁹

MISCELLANEOUS DISTRICT PROJECTS

The Corps participated in several significant mapping projects around the time of World War I. In 1914 the Office of Public Buildings and Grounds compiled a map of all District of Columbia public lands held under federal jurisdiction. Largely the work of

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District surveyor Melvin C. Hazen and civil engineer Frederick D. Owen of the Office of Public Buildings and Grounds, it was prepared under Harts’s supervision to assist the work of the Commission to Investigate the Title of the United States to Lands in the District of Columbia.⁸⁰

In response to a need to relieve overcrowding in government offices, Congress authorized a commission in 1916 to “ascertain what public buildings are needed to provide permanent quarters for all the government activities in the District of Columbia.” Its members were drawn from Congress, plus the Superintendent of the Capitol Building and Grounds, the acting Supervising Architect of the Treasury, and the Officer in Charge of Public Buildings and Grounds. Harts, followed by Colonel C. S. Ridley, served on the Commission, which reported its findings in 1917. It found, for example, that the War Department’s 2,220 employees occupied 834,643 square feet of owned and rented building space, 330,442 of which was office space. It cost the government \$757,448 each year to hold and operate this space.⁸¹

The Corps’ engineers also exerted considerable influence on the design of some of Washington’s civic buildings by serving on juries to select their architects. One appropriate example was the Municipal Building, now more commonly called the District Building. In August 1902, for example, the congressional commission to supervise the erection of the Municipal Building chose a jury composed of the three active members of the Senate Park Commission and, *ex officio*, the Supervising Architect of the Treasury and the District of Columbia Engineer Commissioner, then Colonel John Biddle. The offices of the Engineer Commissioners moved to the District Building when it was completed in 1908.

The remarkable coordination among presidents, cabinet officers, congressmen, artists, businessmen, contractors, and artisans in order to complete these interconnected projects required much more than the military organizational skills of the Corps officers involved. Astuteness, intelligence, tact, and diplomacy were required on a daily basis. Harts recalled: “When I reported to President Wilson he was very gracious, complimented me on my Princeton degree [an honorary A.M. degree conferred in 1913] and said we should be all the better able to get along on account of that.” (Wilson was a former president of Princeton University.) In 1918–19, during Wilson’s European visit, Harts often accompanied the president on official visits as one of his aides-de-camp, a position for which his tenure in Washington as the president’s military aide had adequately prepared him. Harts noted that the Commission of Fine Arts meetings were always held in his office “and were a liberal education to me in artistic matters.” He characterized his job in the Office of



Public Buildings and Grounds overseeing the Lincoln Memorial, the Amphitheater at Arlington Cemetery, and the Red Cross Building: “I was the engineer, the contractor for the U.S., the head inspector and paid all bills. I may have been too harsh at times in accepting work but no breath of suspicion of any missing of funds was ever raised. These buildings were all built by contract and under the eyes of the architects as well.” Harts summed up his Washington years in a way that probably rang true to many of the Corps’ officers who served in his position.

District Building completed in 1908. The Engineer Commissioner served on the jury that chose the building’s design and the District Commissioners’ offices occupied the building.

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